

URBAN WATER MANAGEMENT PLAN 2010



PARADISE IRRIGATION DISTRICT

Submitted by:
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Paradise Irrigation District 2005 Urban Water Management Plan Contact Sheet

Date plan submitted to the Department of Water Resources: **12/29/05**

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The Water supplier is an: **Irrigation District**

The Water supplier is a: **Retailer**

Utility services provided by the water supplier include: **Water**

Is This Agency a Bureau of Reclamation Contractor? **No**

Is This Agency a State Water Project Contractor? **No**

Introduction

The purpose of the Urban Water Management Plan is to inform the public and state agencies of the Paradise Irrigation District's water supply availability, exposure to droughts, conservation efforts, and plans for future supply. Urban Water Management Plans are prepared by California's urban water suppliers to support their long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands.

Paradise Irrigation District (PID or District) has been completing Urban Water Management Plans since 1986 and has been required every five years in years ending in zero or five. This 2010 Urban Water Management Plan (UWMP) is being completed in 2011 because of the changes required by [SB x 7 7 \(Steinberg\)](#): Water conservation. The deadline was extended to June 30, 2011. The legislation requires significant changes to the requirements of the UWMP and most importantly the implementation of the 20x2020 plan. There is now state law requiring the PID to reduce the amount of water each person uses per day (Per Capita Daily Consumption, which is measured in gallons per capita per day) by 20 percent by the year 2020.

In this plan, PID has completed the calculations establishing our base per capita per day (pcpd) that our 20% will be measured from. We have made significant reductions in our uses in the last few years through pipeline replacement, leak detection and public response to the statewide drought. It will be important for PID and its customers to remain diligent in our efforts to continue to use water wisely.

In this plan we will show you our current supply calculations, what impacts a customer can expect during drought periods and the impacts to water supply into the future.

SYSTEM DESCRIPTION

Law

10631. (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

Background

Located in central Butte County, California, the Paradise Irrigation District was established in 1916 to supply water to an area of approximately 11,250 acres. PID currently relies predominately on surface water sourced from the Little Butte Creek watershed, a minor stream in the Sacramento Valley drainage that rises in the northwestern foothills of the Sierra Nevada and lies wholly within Butte County. Although a perennial creek, Little Butte Creek receives a relatively large amount of precipitation and resulting runoff. Little Butte Creek conveys surface water and storm runoff into the Paradise Reservoir and Magalia Reservoir; the latter is located approximately one half mile north of the community of Magalia and approximately one mile north of the PID's service area. The PID has three water permits allowing diversion of water from Little Butte Creek: two storage rights and a direct flow right. The average runoff for the watershed is approximately 15,960 acre-feet per year.

Storage is provided by two reservoirs impounded by the Paradise and Magalia Dams located north of Paradise. The upstream Paradise Reservoir is the main storage facility with a storage capacity of approximately 11,500 acre-feet. Downstream of Paradise Dam, storage behind the Magalia Dam is presently restricted to approximately 800 acre-feet, as the reservoir operating level has been reduced due to dam seismic stability concerns. If repaired, the capacity of Magalia Reservoir is approximately 2,570 acre-feet. The District has approximately 6,000 acre-feet of additional water rights that are not being utilized due to a lack of storage.

Due to the reduced water level behind Magalia Dam, gravity feed to the water treatment plant was no longer possible. A pump station was installed at the base of Magalia Reservoir to pump raw water from the reservoir to the treatment plant. In 2007, a bypass pipeline was installed to provide gravity water to the treatment plant in addition to serving as an alternative source location if Magalia is contaminated. The District supplies the majority of the Town's residents using a gravity distribution system and storage facilities with a total capacity of approximately 9.5 million gallons.

History

The Paradise Irrigation District was established in 1916 to supply water to an area of approximately 11,250 acres with a population of approximately 1,000 people. The District was formed with the express purpose of providing agricultural water to the Paradise area. The District was authorized to operate by the California Water Code, Division 11, Section 20500 to 29978 derived from the 1897 Irrigation District law. The District was organized to bond itself to the extent of \$350,000 to finance the Magalia Reservoir project.

Construction of the Magalia Dam on Little Butte Creek was begun in 1916 and completed in 1917. The Little Butte Creek watershed was chosen because of the relatively large amounts of precipitation and resulting runoff it received, even though it was seasonal. Magalia Dam was located approximately one-half mile north of the community of Magalia and approximately two miles north of the service area. During the early years, Magalia Reservoir water was used almost solely for irrigation, as domestic supplies were obtained from private wells. The primary agricultural crops within the area at that time were pears, apples, walnuts, olives and grapes. The reservoir's capacity was 1,950 acre-feet and water was delivered through an open canal that followed the eastern wall of Little Butte Creek Canyon.

On January 5, 1932, following a period of acute water shortage, the District's customers were asked to vote on whether or not they would permit the installation of water meters. Ballots were mailed out to 650 water consumers and the issue was voted down by a vote of 262 to 172. In May 1933, the District's directors called a meeting to find ways and means of financially sustaining PID. The meeting was attended by 200 customers and the following plan was adopted:

1. That each individual tract or establishment in the District be charged \$6.00 for service.
2. That water used between April and November be paid for at the rate of \$3.00 per acre-foot. This was a special charge for water users only.
3. If two or more families lived on one tract, they would be subject to a \$6.00 service charge for each family or household.

By 1934, meters were installed to all customers amidst a large uproar of the people.

In March of 1934, PID secured a loan of \$260,500 from the Reconstruction Finance Corporation, a federal agency. The outstanding indebtedness of the District at that time was \$521,020. This included \$12,000 worth of irrigation bonds purchased from PID by the State of California in December 1927. These securities bore interest at 6% and maturity dates between 1941 and 1955.

A \$160,000 Works Progress Administration project for laying pipe in the District was approved on January 24, 1942. The Federal Reconstruction Corporation made available \$140,000 in bonds to purchase the pipe and fittings for the project.

The method for transporting water out of Magalia Reservoir was upgraded in 1954 when a steel pipeline was constructed to replace the open canal. This was necessary due to water losses, contamination and debris in the water. One attempt to increase the capacity of the reservoir was the installations of flashboards in the spillway structure. This provided an additional 600 acre-feet of storage, but was later abandoned for safety reasons. The water supply was augmented by purchasing water from PG&E's Hendricks Canal, an option that is no longer available to the District.

The Mosquito Junction Dam (later the Paradise Dam and Reservoir) and Reservoir Project was proposed in 1956 to fulfill the growing requirements for water for both irrigation and domestic use. A special election was held in January 1956 to decide on \$1,500,000 worth of general obligation bonds to finance the project. The measure was approved by a majority of only 53% of the total votes cast. The Mosquito Junction Dam and Reservoir was located approximately two miles upstream from Magalia Reservoir and would provide an additional 6,300 acre-feet of storage area. Construction began on April 20, 1956 and in June 1956 the name was changed to Paradise Dam and Reservoir. This project increased the total usable capacity for the District to 8,350 acre-feet.

Remedial works were completed on Magalia Dam in 1964. The work consisted of stabilizing the existing dam by adding fill material to flatten the downstream slope of the western section below the county road. Approximately 13,000 cubic yards of earth were utilized in the reconstruction. Also 3,200 cubic yards of crushed drain and transition rock were placed on the bottom 3 to 8 feet of the embankment. The Bechtel Corporation served as engineer for the District and District personnel and equipment were used whenever possible.

Paradise Dam was raised an additional 24.5 feet in 1976 increasing the available storage to 11,497 acre-feet. This project cost four million dollars and increased the District's total capacity to 14,140 acre-feet (a 69% increase), which has since been recalculated and determined to be 14,071 (1992 Topography and Hydrography Study, Harlan-Tait). In 1997, this was further reduced to 12,293 acre-feet as a result of a Magalia Reservoir draw down required by the Division of Safety of Dams due to concerns of seismic stability.

A water filtration plant was added to the District's water system in 1986 due to the increased turbidity within the reservoirs during the winter months. The filtration plant had the capacity to filter six million gallons (mgd) of water per day which met flow requirement during the winter but in the summer unfiltered water was added to the system to meet peak summer flow. The community would not approve a full filtration plant due to the costs involved.

An evaluation of alternatives for expanding the capacity of the existing treatment plant was presented by Brown & Caldwell, September, 1990. The need for the study was driven by changes in drinking water regulations which required the treatment of all surface water supplies.

An election was held in June 1992 and the community voted to borrow five million dollars from the Department of Water Resources and to sell Certificates of Participation in the amount of eight million to finance the enlargement project. The measure was approved by a majority of 65% of the voters.

In January, 1995 the new treatment plant was completed and placed in service. The new filtration plant has the capacity to treat 22.8 mgd.

Climate

Situated outside of the District boundaries are Paradise Lake, the District's main storage reservoir, sits at 2,568 and Magalia Reservoir, the District's terminal reservoir, at 2,200 feet above sea level as a result of the 1997 Division of Safety of Dams order restricting the level due to seismic concerns. Prior to that, the Magalia reservoir operated at 2225.8 feet above sea level.

The Town occupies a large southerly trending ridge with an average slope of approximately 4%. Elevations within Paradise range from 1,080 feet in the southwest corner to 2,320 feet in the northeast. Approximately 88% of the Town area lies on slopes of less than 30%.

Climate varies in the Paradise area and is illustrated in the following table. The highest temperature on record is 111 degrees F., the lowest temperature recorded being 12 degrees F. There are 65 days average per year with temperatures 90 degrees or higher, and 30 days average with a low temperature of 32 degrees or colder. Average rainfall is 55 inches, mostly in the winter months, but ranging from November to April. An average of 6 inches of snow falls in the upper Ridge area. Paradise averages 257 days of sunshine per year.

Climate							
	January	February	March	April	May	June	
Average ETo	1.05	1.8	3.24	4.97	6.48	7.37	
Average Rainfall	10.82	8.93	7.91	3.96	1.73	0.65	
Average Temperature	45.61	48.3	51.18	55.81	63.18	71.38	
	July	August	September	October	November	December	Annual
Average ETo	7.82	6.86	5.28	3.56	1.66	0.97	51.06
Average Rainfall	0.08	0.27	0.87	3.1	7.29	9.34	54.95
Average Temperature	77.88	76.66	72.2	63.22	51.75	45.85	60.25

Climate Change

For the purposes of considering how climate change in Northern California may impact water resource providers, it is noted that many climatologists agree on the following:

1. Northern California will experience an increase in individual storm intensity.¹
2. Mountain areas will likely see an increase in precipitation, though the snow/rain mix is likely to change toward more rain and less snow.²
3. California as a whole will experience hotter summers and possibly wetter winters.³
4. The potential for wildfires will increase.⁴

Although there are other impacts that will likely occur as a result of climate change (e.g., rising sea levels), the above issues, which are expanded upon below, represent the most immediate and direct impacts to the District.

More Rain and Less Snow

While individual storm events may be more severe, resulting in more snow and rain within an individual storm, the increase in temperature is expected to result in less snow overall and more rain in the foothills of California. Less snow pack will result in less “natural” storage and gradual runoff as the snow melts. Instead, runoff from rain would be more immediate and less sustained into spring. The California Department of Water Resources has projected that the Sierra snowpack will experience a 25 to 40 percent reduction from its historic average by the year 2050. However, since the watershed that supplies the PID with its water resource is at a lower elevation that does not receive heavy snowfall, this would not affect the PID as much as other areas of the state that are supplied by watersheds that extend to higher elevations with more extensive snowpack resources.

Hotter Summers

As summers become hotter for longer periods of time, there will be proportionally greater demand for water use; for example, for landscape irrigation. Energy use patterns and costs are also expected to be effected as temperatures during the summer increase between 5 and 10 degrees, causing greater use of air conditioning. Warmer temperatures and extended dry periods will likely increase evapotranspiration rates and extend growing seasons, thereby

¹ California Climate Change Center. *Our Changing Climate: Assessing Risks to California*. July 2006.

² California Climate Change Center. *Scenarios of Climate Change in California*. February 2006.

³ Union of Concerned Scientists, *Confronting Climate Change in California*, October 2006.

⁴ California Climate Change Center. *Scenarios of Climate Change in California*. February 2006.

increasing the amount of water that will be needed for the irrigation of crops, urban landscaping and environmental water needs. Reduced soil moisture and surface flows will disproportionately affect the environment and other water users that rely on annual rainfall such as non-irrigated agriculture and livestock grazing on non-irrigated rangeland.

Increased Wildfire Danger

As summers become hotter and drier, the already pervasive risk of wildfire will increase even more. It is expected that, because of prolonged dry periods, forests and foothill grass and chaparral lands will experience more frequent and intense fires, resulting in changes in vegetation cover and, eventually, a reduction in the water supply and storage capacity benefits of a healthy watershed.

Population

The population served by PID resides within the Town of Paradise, which was incorporated in November, 1979. The 2010 population for the Town of Paradise is 26,310. Del Oro Water Company, a PUC regulated private water company, serves 139 dwellings in the Town. An adjustment was made to calculate the PID population. The PID population was determined by using data provided by the California Department of Finance, Demographic Research Unit. The projected population was determined from a forecast provided by the Butte County Association of Governments. These projections are based on the California Department of Finance data and the high end of growth projections was used.

The population of Paradise has changed dramatically from the time the District was first established in 1916. Major growth occurred in the 1970's. The three basic types of housing units are single-family units, multiple family units (which range in size from duplexes to larger apartment complexes containing several units), and mobile homes located in mobile home parks and on individual lots. The predominant type of dwelling unit in Paradise continues to be the conventional single-family residence. Construction of new multiple-family dwellings in Paradise is constrained by the lack of a sewer system. Paradise does not have a centralized sewer system and sewage must be adequately disposed of on each individual parcel. This is the controlling factor affecting growth in the Town of Paradise and the District.

The table below shows the estimated future population total for the District through 2035. The High Scenario of population estimates were used from the Butte County Association of Government data. Based upon their information it is assumed a 1.0% annual growth rate will be experienced from 2010-2035.

Population - Current and Projected						
	2010	2015	2020	2025	2030	2035
Service Area Population	26,032	27,094	28,392	29,868	31,402	33,055

The table below shows the population data provided for by the California Department of Finance, Demographic Research Unit. An adjustment was made for the 139 dwelling units that are in the Town of Paradise but are served by a local PUC regulated district. The future population projections are from data provided for by the Butte County Association of governments.

Population Data for Base Daily Per Capita Water Use				
Year	Population	Adjustment	Adjusted Population	Annual Percentage Change
1995	26,132	(278)	25,854	0.00%
1996	26,186	(278)	25,908	0.21%
1997	26,188	(278)	25,910	0.01%
1998	26,342	(278)	26,064	0.59%
1999	26,342	(278)	26,064	0.00%
2000	26,371	(278)	26,093	0.11%
2001	26,477	(278)	26,199	0.41%
2002	26,603	(278)	26,325	0.48%
2003	26,704	(278)	26,426	0.38%
2004	26,709	(278)	26,431	0.02%
2005	26,557	(278)	26,279	-0.58%
2006	26,441	(278)	26,163	-0.44%
2007	26,310	(278)	26,032	-0.50%
2008	26,217	(278)	25,939	-0.36%
2009	26,276	(278)	25,998	0.23%
2010	26,310	(278)	26,032	0.13%
2015	27,372	(278)	27,094	4.08%
2020	28,670	(278)	28,392	4.79%
2025	30,146	(278)	29,868	5.20%
2030	31,680	(278)	31,402	5.14%
2035	33,333	(278)	33,055	5.26%

Adjustment: 139 dwellings reside in the Town of Paradise but are served by Del Oro Water Co. Use conservative assumption of 2 persons per household.

Source: California Department of Finance, Demographic Research Unit

Other Demographic Factors

Wastewater Disposal

One of the largest issues impacting housing in the PID service area is the lack of a central sewer system. It has been reported that the Town of Paradise is the largest municipality west of the Mississippi without a central sewer system.

Every dwelling or business in the PID disposes wastewater by septic system, a special septic system or clustered systems. This has historically impacted the growth in the PID, reducing the ability to develop large housing densities. This has resulted in larger lots that are mixed between extensive landscapes to many homes that have minimal landscape in a natural setting.

Annexation

The PID currently has a Sphere of Influence boundary identical to our service area. We are currently working to develop and have approved by the Butte Local Agency Formation Commission a larger Sphere of Influence.

PID has adopted a policy that requires annexed properties to “bring their own” water supply. This is accomplished by the funding of demand management measures that will provided savings equal to the demand of the new user. PID will evaluate this policy in light of the 20x2020 requirement. It may be necessary to require the annexed properties to provide 120% of the anticipated demand.

Other Issues

Demographic factors such as employment, customer base, and industry do not uniquely affect water supply issues in the PID service area.

WATER SUPPLIES

Law

10631 (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan: (1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

10631 (h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

Water Supply Sources

Surface Water

Paradise Irrigation District's primary water supply system is reliant upon water captured and stored from Little Butte Creek. Little Butte Creek is a minor stream in the Sacramento Valley drainage that rises in the northwestern foothills of the Sierra Nevada and lies wholly within Butte County. Elevations range from 2,150 feet at the base of Magalia Dam to 3,850 feet at the uppermost elevation in the watershed. Flow in the catchment area is seasonal and responds to and follows the pattern of precipitation. Data for the runoff in the catchment area is from 1907 to 2004. The average annual runoff for the past 97 years has been approximately 15,750 acre-feet. The water year 1935-36 (estimated runoff 15,960 acre-feet) was used to represent the average year. The lowest estimated runoff was in the 1923-24 water year at 1,763 acre-feet. Average runoff far exceeds the District's current and projected needs of 7,000 to 8,000 acre-feet of water demand.

each year, although the District is vulnerable to potential water shortages during extended dry periods. The District's firm yield is 7,300 acre-feet plus 350 acre-feet from a well (groundwater). Firm yield is defined as the amount of water that could be annually utilized from the Little Butte Creek system during a critical drought period. Paradise Irrigation District stores water from Little Butte Creek in two reservoirs located on the drainage. Magalia Reservoir originally had a storage capacity of 2,574 AF, but in 1997 the reservoir was drawn down to comply with safety requirements of Division of Safety of Dams (DSOD). After drawdown, Magalia Reservoir has a storage capacity of 796 AF. Paradise Reservoir has a storage capacity of 11,497 AF. The total storage capacity of both reservoirs is 12,293 AF.

Ground Water

The District drilled a well in 1996. The output from the well is estimated to be 350 acre-feet per year, but is operated annually at only 30 acre-feet per year to keep the well operational. The primary purpose of the well is to augment the District's water supply during times of drought or emergency. Ground water supply in the District's area is not expected to provide a significant source of water.

Current and Projected Water Supplies

Supplier surface diversions are defined as the total runoff anticipated in a normal water year as calculated by the District's Yield Analysis Model. Reservoir Storage is defined as the storage in the reservoirs anticipated on January 1st of each year as calculated using the District's Yield Analysis Model. There has been no action taken by the Board selecting any planned water supply projects, therefore no planned water supply projects are included in the table below.

Current and Projected Water Supplies - AFY						
Water Supply Sources	2010	2015	2020	2025	2030	2035
Water purchased from:						
Supplier produced groundwater	30	30	30	30	30	30
Supplier surface diversions	15,960	15,960	15,960	15,960	15,960	15,960
Reservoir Storage	10,082	8,982	9,293	9,183	8,956	8,713
Other						
Total	26,702	24,972	25,283	25,173	24,946	24,703

Future Supply Projects

The table below shows the potential supply provided for by the four projects the District has identified for future storage. These potential projects are not included in the table above because there has been no formal approval from the District's Board of Directors of which project to pursue and a timeline for construction. The four most likely future supply projects have been included in the table below that shows the additional water supply the project would provide in a Normal-Year, Single-Dry Year, and a Multiple Dry Year.

Project Name	Future Water Supply Projects					
	Projected Start	Normal Year AF	Single Dry Year AF	Multiple Dry-Year 1 AF	Multiple Dry-Year 2 AF	Multiple Dry-Year 3 AF
Restore Magalia Dam Storage	2025	1,703	1,703	1,702	1,399	743
Magalia Max Replacement	2025	5,808	5,809	5,808	4,616	2,520
Paradise Dam Max Raise	2025	6,596	6,597	6,596	5,365	3,244
3 ft bladder dam, Paradise	2015	724	724	724	347	0

Ground Water

The District drilled a well in 1996. The output from the well is estimated to be 350 acre-feet per year, but is operated annually at only 30 acre-feet per year to keep the well operational. The primary purpose of the well is to augment the District's water supply during times of drought or emergency. The District overlies an area that only supplies fractured rock aquifers as potential ground water supply. These types of aquifers are not expected to provide a significant source of water.

Ground water in Butte County is governed by the County's Groundwater Management Plan. The introduction to The Butte County Groundwater Management Plan is attached as Appendix "C". The introduction states "Additionally, the foothill and mountain areas of the County do not overlie groundwater basins as defined in Department of Water Resources (DWR) Bulletin 118-2003, and are therefore not included under this GMP".

The fractured rock aquifer groundwater supply is not adjudicated and The Department of Water Resources has not identified or projected this supply to be in overdraft.

Amount of Groundwater pumped - AFY					
Basin Name (s)	2006	2007	2008	2009	2010
Fractured Rock	26.19	106.59	173.40	136.91	100.32
% of Total Water Supply	0.32%	1.30%	2.06%	1.89%	1.56%

Amount of Groundwater projected to be pumped - AFY					
Basin Name(s)	2015	2020	2025	2030	2035
Fractured Rock	30	30	30	30	30
% of Total Water Supply	0.40%	0.43%	0.41%	0.39%	0.37%

Other Potential Water Sources

Law

10631 (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

10631(i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following: (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal. (b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project. (c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use. (d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses. (e) The projected use of recycled water within the supplier's California service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision. (f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year. (g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

Wholesale Supply

The District does not receive water from a wholesale supplier. In 2008, 2009 and 2010, the District provided the Del Oro Water Company 100 acre-feet of emergency water in each year. The District also treats and delivers water that is provided to the District by the Del Oro Water Company. These amounts have been accounted for and removed from any calculations provided in the tables in this plan.

Exchange or Transfer Opportunities

The neighboring water provider, Del Oro Water Company has a limited supply of water available and none available at this time for transfer. The District does have an agreement in place with them that would provide a small amount of water available to the District in an emergency from their Paradise Pines District. The Paradise Pines District is solely served by groundwater that is limited.

The District attempted to negotiate with Del Oro Water Company to acquire the Del Oro's Lime Saddle District that would have provided an opportunity to use water from Lake Oroville. This supply would have been obtained from Butte County's Table A allocation from the State Water Project. The District would have constructed treatment plant facilities and a pipeline capable of

providing supplies not only to the PID, but to Del Oro Water Company's Paradise Pines and Magalia Districts.

Those negotiations broke down and the Del Oro Water Company has begun their own project to construct a pipeline from Lake Oroville to the southern border of Paradise. There would still remain large sections of small diameter pipe that would prevent the transfer of quantities needed for exchange or transfer. The treatment plant enlargement being considered does not provide adequate additional capacity for transfer of water to the PID.

Recycled Water

The area served by the District is entirely served by individual septic systems and the collection, treatment and disposal of wastewater is the responsibility of the Town of Paradise, not Paradise Irrigation District.

Desalination

The geographic location of the District many miles from ocean water, brackish water and saline groundwater eliminates the opportunity for desalination.

Water Recycling

Wastewater System Description

Law

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:

10633 (a) A description of the wastewater collection and treatment systems in the supplier's service area...

Responsibility of Wastewater

The area served by the District is entirely served by individual septic systems and no centralized sewer system exists. The Town of Paradise is responsible for the collection, treatment, and disposal of wastewater.

Participation in a Regional Recycled Water Planning

The District will work with the Town of Paradise by providing water use information necessary for the development of clustered septic systems that may be developed to provide recycled water.

Wastewater Collection and Treatment in the Town of Paradise

There are no centralized sewer systems in the area served by the District, or in the Town of Paradise. A few clustered septic systems do exist, but in discussions with Town staff, it was determined it was not economically feasible for them to include recycled water.

The Town of Paradise has engaged the services of Northstar Engineering and Questa Engineering to provide a feasibility study of the disposal of wastewater in the business corridors in town. A portion of the study will include the investigation of developing recycled water for use at cemeteries and parks in the town.

Treated Wastewater that meets Recycled Water Standards

Because there is no centralized sewer system, there is no wastewater that meets recycled water standards.

Wastewater Generation, Collection & Treatment

Law

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:

10633 (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

Individual Septic Systems

The only treatment used in the District's service area is individual or clustered septic systems. The following table estimates the interior demands in the District by analyzing winter consumption patterns. This estimates the disposal of wastewater in the District.

Disposal of wastewater (non-recycled) AF Year							
Method of disposal	2005	2010	2015	2020	2025	2030	2035
On-site septic systems	2,707	2,868	2,985	3,128	3,291	3,460	3,642
Total	2,707	2,868	2,985	3,128	3,291	3,460	3,642

Wastewater Disposal and Recycled Water Uses

Law

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:

10633 (b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

10633 (c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

10633 (d) A description and quantification of the potential uses of recycled water , including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

10633 (e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

Recycled Water Currently Being Used

Since there is no centralized sewer system, there is no current use of recycled water in the distribution area of the District.

At the District's treatment plant, all water used for flushing clarifiers and backwashing filters is returned to the raw water reservoir. Treatment levels meet those required by the District's National Pollution Discharge Elimination System permit.

Potential Uses of Recycled Water

The topography of the District's service area prohibits an economical large-scale recycle project. There is a large difference in elevation from the top of the District to its lower levels. Pumping costs alone at today's energy prices make any projects not economically viable.

There are no feasible potential uses of recycled water for agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, or other appropriate uses.

Septic systems by design provide some level of groundwater recharge.

The District will continue to work with Town of Paradise staff in their development of smaller scale recycle projects. Information is not available on the projected use in the next 20 years.

Indirect Potable Reuse

Since there is no centralized sewer system, there is no opportunity for indirect potable reuse.

Encouraging Recycled Water Use

Law

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:

10633 (f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water , and the projected results of these actions in terms of acre-feet of recycled water used per year.

10633 (g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

Encouraging Recycled Water

The District will continue to work with the Town of Paradise in finding potential recycled water projects. If the projects can be supported to provide water to outdoor recreational facilities, the District may be able to offer financial incentives because of the benefit to the overall water supply. Any incentives would be on a case-by-case basis and any benefit to the District will be considered. There is not enough information available to project any results from this action.

Optimizing Plan

This District is committed to assisting the Town of Paradise in establishing a plan for recycled water use. The District could provide construction services necessary for the installation of a dual distribution service in the community.

WATER USE DEMANDS

Law

10608 Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

10608.4 Report progress in meeting urban water use targets.

10631 (e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:

(A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; and (I) Agricultural.

(2) The water use projections shall be in the same 5-year increments to 20 years or as far as data is available.

10631.1. (a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

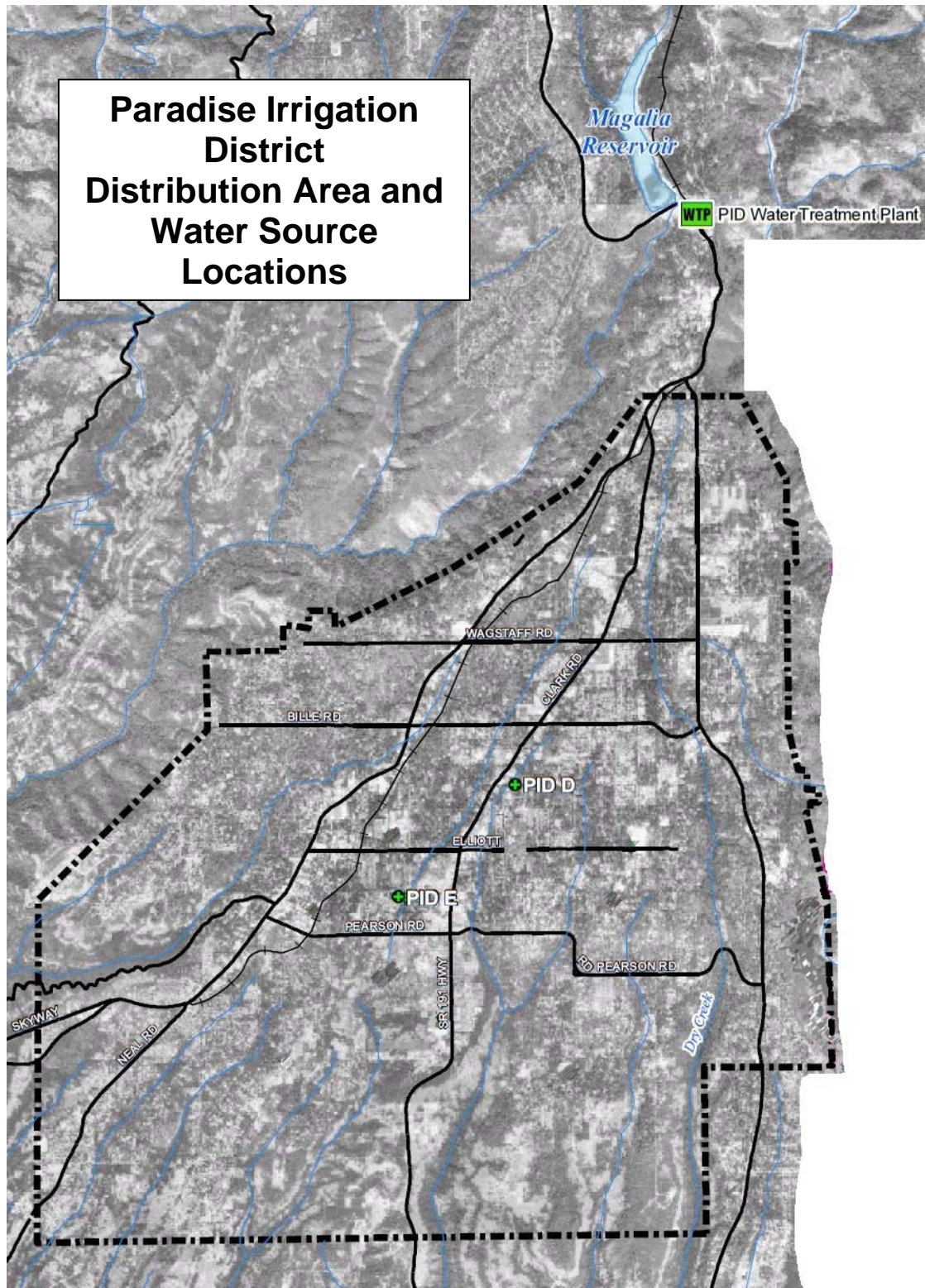
Past, Current and Projected Water Use

Population estimates that drive the projections of water use were derived from the California Department of Finance. The Butte County Association of Governments used their data to provide projections for growth into the future. These population estimates together with the water use targets provide the basis for projected water use. Refer to the section on population for additional information.

Since 1934, all deliveries have been metered and all future deliveries shall be metered.

The District does not regularly provide water to other agencies from its water supply. The District does have an agreement with Del Oro Water Company to treat and deliver raw water that is provided by Del Oro into the District's Paradise Lake. Appropriate losses are accounted for in the receipt and delivery of water. These amounts are accounted for prior to the District's calculation for use and demands.

The map on the following page shows the locations water is delivered into the system and the boundary of the District.



Water Use Targets

The table below shows the Water Use Target Calculation. The District calculated their Base Daily Per Capita Water Use using section 10608.20. The District has chosen the year ending in 2008 for both the ten and five year base period evaluation. Each delivery point into the distribution system is measured by meters. The 2020 Target for the District is 218 gallons per capita per day and the 2015 Target is 245 gallons per capita per day.

We are proud to report that the District met the targets in 2010; but it should be noted that it was a very wet spring that resulted in low demands for several months.

Water Use Target Calculation						
Year	Adjusted Population	Water Delivered Gallons	Gallons per Capita per Day	10 Year Base Period Evaluation	5 year Base Period Evaluation	Annual Demand acre-feet
1995	25,854	2,240,138,925	237			6,875
1996	25,908	2,408,032,741	255			7,390
1997	25,910	2,647,117,547	280			8,124
1998	26,064	2,265,596,084	238			6,953
1999	26,064	2,564,102,634	270			7,869
2000	26,093	2,532,557,721	266			7,772
2001	26,199	2,705,285,092	283			8,302
2002	26,325	2,707,166,944	282			8,308
2003	26,426	2,560,391,793	265			7,858
2004	26,431	2,720,406,626	282	266		8,349
2005	26,279	2,440,681,042	254	267		7,490
2006	26,163	2,604,301,147	273	269		7,992
2007	26,032	2,581,276,490	272	268	269	7,922
2008*	25,939	2,632,253,633	278	272	272	8,078
2009	25,998	2,255,900,158	238	269	263	6,923
2010	26,032	1,992,693,665	210	264	254	6,115

* - Ending Year for Evaluation

		2015 Target	245
% of 2015	% of 2020	2020 Target	218
86%	96%	2010 Actual Use	210
Max Allowable 2020 Target =95% of Five Year Base			258

Future Water Use Demands				
Year	Projected Adjusted Population	Gallons per Capita per Day Target	Water Demand Projected Gallons	Annual Projected Demand AF
2015	27,094	245	2,424,802,217	7,441
2020	28,392	218	2,258,638,142	6,931
2025	29,868	218	2,376,056,777	7,292
2030	31,402	218	2,498,089,424	7,666
2035	33,055	218	2,629,588,749	8,070

Past, Current and Projected Water Deliveries

Past, Current and Projected Water Deliveries						
Water Use Sectors	2005		2010		2015	
	metered		metered		metered	
	# of acc.	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY
Single family	8,889	4,293	8,852	3,831	9,213	4,702
Multi-family	611	870	654	765	681	953
Commercial/Inst.	507	595	527	675	548	804
Industrial					0	0
Landscape					0	0
Agriculture	23	200	19	191	20	238
other	31	143	0	87		0
Total	10,438	6,101	10,052	5,375	10,462	6,697

Past, Current and Projected Water Deliveries (continued)								
Water Use Sectors	2020		2025		2030		2035	
	metered		metered		metered		metered	
	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY
Single family	9,655	4,501	10,156	4,736	10,678	4,979	11,240	5,241
Multi-family	713	912	750	960	789	1,009	830	1,062
Commercial/Inst	575	769	605	809	636	851	669	896
Industrial	0	0	0	0	0	0	0	0
Landscape	0	0	0	0	0	0	0	0
Agriculture	21	228	22	240	23	252	24	265
other	0	0	0	0	0	0	0	0
Total	10,963	6,411	11,533	6,745	12,126	7,091	12,764	7,465

Additional Water Uses and Losses - AF Year							
Water Use	2005	2010	2015	2020	2025	2030	2035
Unaccounted System Losses	1,389	740	744	520	547	575	605
Total	1,389	740	744	520	547	575	605

Total Water Use - AF Year							
Water Use	2005	2010	2015	2020	2025	2030	2035
Water Deliveries	6,101	5,375	6,697	6,411	6,745	7,091	7,465
System Losses	1,389	740	744	520	547	575	605
Total Water Use	7,490	6,115	7,441	6,931	7,292	7,666	8,070

Lower Income Water Use Projections

The following estimates were derived from the Town of Paradise Housing Element that identified the current number of housing units for lower income customers and identified the future low income housing needs of the Town of Paradise. The number of housing units was multiplied by the average of 2.14 persons per household identified in the plan.

The lower income population was then used with the Water Use Targets to develop the projected water use. These demands are included in the total projected demands above.

Low Income Single Family Homes Future Water Use Demands				
Year	Projected Low Income Population	Gallons per Capita per Day Target	Water Demand Projected Gallons	Annual Projected Demand AF
2015	4,295	245	384,080,375	1,179
2020	4,510	218	358,860,700	1,101
2025	4,736	218	376,843,520	1,156
2030	4,973	218	395,701,610	1,214
2035	5,221	218	415,434,970	1,275

Low Income Multi Family Homes Future Water Use Demands				
Year	Projected Low Income Population	Gallons per Capita per Day Target	Water Demand Projected Gallons	Annual Projected Demand AF
2015	477	245	42,655,725	131
2020	501	218	39,864,570	122
2025	526	218	41,853,820	128
2030	553	218	44,002,210	135
2035	580	218	46,150,600	142

Low-Income Projected Water Demands					
Low Income Water Demands	2015	2020	2025	2030	2035
Single-family residential	1,179	1,101	1,156	1,214	1,275
Multi-family residential	131	122	128	135	142
Total	1,310	1,224	1,285	1,349	1,417

Water Supply Reliability

Law

10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from the state, regional or local agency population projections within the service area of the urban water supplier.

NORMAL WATER YEAR 2015-2035

The following table provides for the assessment of the reliability for customers in normal, dry and multiple dry years. Storage levels and runoff that provides for the supply totals were calculated using the District's Yield Analysis Model.

NORMAL WATER YEAR Projected Supply and Demand Comparison - AF Year					
	2015	2020	2025	2030	2035
Supply totals	24,972	25,283	25,173	24,946	23,122
Demand totals	7,441	6,931	7,292	7,666	9,964
Difference	17,531	18,352	17,881	17,280	13,158
Difference as % of Supply	70%	73%	71%	69%	67%
Difference as % of Demand	236%	265%	245%	225%	206%

SINGLE DRY WATER YEAR 2015-2035

The following tables are estimates for a single dry year impact. The demands were reduced for the anticipated 30% reduction that would be required if the District were to face a single dry year similar to the driest on record.

SINGLE DRY WATER YEAR Projected single dry year Supply and Demand Comparison - AF Year					
	2015	2020	2025	2030	2035
Supply totals	11,106	11,416	11,306	11,079	10,836
Demand totals	5,518	5,140	5,407	5,685	5,984
Difference	5,588	6,276	5,899	5,394	4,852
Difference as % of Supply	50.3%	55.0%	52.2%	48.7%	44.8%
Difference as % of Demand	101.3%	122.1%	109.1%	94.9%	81.1%

MULTIPLE DRY WATER YEARS

The following tables are estimates for a multiple dry year impact in years 2006-2010. The demands were reduced in each year according to the reduction that would be required if the District were to face a multiple dry year scenario. The first year is the date at the top of the column.

MULTIPLE DRY WATER YEAR					
Projected Supply and Demand Comparison during Multiple Dry Year Periods					
	2015	2020	2025	2030	2035
First Year Supply totals	12,583	12,893	12,784	12,557	12,314
First Year Demand totals	5,518	5,737	6,036	5,685	5,984
Difference	7,065	7,156	6,748	6,872	6,330
Difference as % of Supply	56.2%	55.5%	52.8%	54.8%	51.4%
Difference as % of Demand	128.0%	124.8%	111.8%	120.9%	105.8%
Second Year Supply totals	12,786	13,016	12,638	12,618	12,072
Second Year Demand totals	5,141	4,999	5,258	5,422	5,705
Difference	7,645	8,017	7,380	7,196	6,367
Difference as % of Supply	59.8%	61.6%	58.4%	57.0%	52.7%
Difference as % of Demand	148.7%	160.4%	140.4%	132.8%	111.6%
Third Year Supply totals	11,219	11,481	10,857	10,803	10,000
Third Year Demand totals	5,072	4,951	5,208	5,478	4,344
Difference	6,147	6,530	5,649	5,325	5,656
Difference as % of Supply	54.8%	56.9%	52.0%	49.3%	56.6%
Difference as % of Demand	121.2%	131.9%	108.5%	97.2%	130.2%

Reliability Planning

Law

Water Code section 10631

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

- (1) An average water year.*
- (2) A single dry water year.*
- (3) Multiple dry water years.*

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

Reliability

In order to assess the reliability of the District's water supply, the District developed a Yield Analysis Model. The Yield Analysis Model is an operational model of the District's demands, supplies, and storage over a 99-year historical period. The Table below displays the base water years that were calculated from the model.

The District's Yield Analysis Model was developed as a tool to provide planning information and a decision making tool to determine when it is appropriate to initiate water rationing. This Model provides the information needed to calculate the various scenarios in this plan.

Base Water Year Data		
Water Year Type	Little Butte Cr	Ave. Run Off Produced
Average Water Year	1935-36	15,960
Single-Dry Water Year	1923-24	1,763
Multiple-Dry Water Years	1930-34	5,349

The table below shows the water supply reliability calculations that include the District's surface water sources and the District's well. These are the supplies available for use by PID for the given water year scenario's. The supply available is calculated using the expected reservoir storage on January 1st added to the production of the well and the runoff calculated in the Normal Water Year and the Single-Dry Water Year. For the Multiple Dry Water Years, reductions in demand were calculated based on anticipated restrictions the District would implement in this type of situation. The storage levels that would trigger reductions are shown elsewhere in this plan.

Supply Reliability - AF Year					
Average / Normal Water Year	Single Dry Water Year	Multiple Dry Water Years			
		Year 1	Year 2	Year 3	Year 4
25,847	11,981	13,458	13,109	11,011	12,455
% of Normal	46.4%	52.1%	50.7%	42.6%	48.2%

Consistency of Supply

There are no Legal, Environmental, or Water Quality factors that result in inconsistency of supply for our water in the Little Butte Creek Watershed for the period studied in this plan.

The climactic changes from our seasonal rainfall result in an inconsistent supply of water. The District plans to use the Yield Analysis Model to determine the likelihood of shortage of supplies on an annual basis and apply demand management measures to the extent possible to minimize the impacts to our customers.

The District has been and will continue to replace aging pipelines to reduce our unaccounted water. In December 2003, the District received a grant from the Department of Water Resources for the replacement of pipelines that provided an additional \$1.3 million over a three-year period to accelerate the replacements. The District received another grant from the Department of Water Resources to complete two major pipeline replacement projects on Bille Road and the Skyway. These two projects contributed to a significant reduction in unaccounted water. Large leaks that were not surfacing were found during the construction of the projects.

The District is seeking a rate increase from its customers to maintain the additional funding needed to replace pipe at this accelerated pace. The District is also studying the feasibility of increasing its existing storage reservoirs to help bridge the gap between low rainfall producing years.

Maximize Resources

Law

10620 (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

The District has evaluated additional water supplies including maximizing the District's water rights by the raising of Paradise Dam and strengthening of Magalia Dam, alternative groundwater source development and imports from other sources. It appears at this time maximizing the District's own resources and fully using the District's water rights is the most economically feasible alternative for long term supply. The District is looking at alternatives for droughts supply. There is more than adequate water supply for normal years. The need for drought supplies is based on historical periods of drought on record.

The District has developed a Yield Analysis Model that will assist the District in making conservation decisions based on rainfall in a given year. This will maximize the use of our resources throughout various rainfall patterns. The Yield Analysis Model is an operational model of the District's demands, supplies, and storage over a 98-year historical period (1906-2004). This model was used to develop the supply and demand data projection in this plan.

The geographical location of the District's surface water storage system and distribution system do not allow for the feasible import of water from other regions.

Water Quality Impacts on Reliability

Law

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

The District enjoys a pristine watershed that provides for a high quality raw water supply. Our biggest potential threat to the water quality of our supply was contamination of our Magalia Reservoir, our terminal reservoir from a vehicle accident on the dam. We were vulnerable to a tanker truck overturning and spilling into the reservoir.

This threat to our ability to deliver water to our customers has been eliminated by the construction of our \$2.8 million Magalia Reservoir Raw Water Bypass. The District received a \$450,000 grant from the Department of Water Resources and a \$2.0 million loan from the Infrastructure Bank of California. The remaining funds were provided by the District's reserves.

We now have a delivery pipeline that takes water from above Magalia Reservoir and delivers it directly to our treatment plant.

The District has updated our 2001 Watershed Sanitary Survey and Vulnerability Analysis and did not find any significant changes in the watershed that would affect water quality.

There is no water quality changes anticipated in the next 20 years that would affect the reliability of the water supply because Butte County has established a watershed protection zone for the runoff into our reservoirs.

This protection zone was adopted for the following purposes:

1. To Protect the County's surface and ground water resources.
2. To reduce future governmental costs by preserving public water supplies.
3. To recognize the essentially public nature of the land and water resources of a watershed, and that their continued vitality is directly related to the social and economic welfare of the County and its communities.
4. To protect the public health, safety and welfare by requiring such additional restrictions upon the use of the land as are necessary to retain the natural balance and integrity of a watershed.
5. To recognize the uniqueness of each watershed by basing the selection of the most effective measures for their protection upon an evaluation of the soils, climactic conditions, topography, vegetation, drainage pattern, and any other specific conditions unique to the watershed.
6. To allow the County or its citizenry to identify watersheds where a natural or man-made imbalance in these environmental systems occurs and provides a means for repairing or restoring the natural functions of these watersheds.

Water Shortage Contingency Plan

Stages of Action

Law

10632. The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier:

(a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

Water Shortage Stages and Triggering Mechanisms

As the water purveyor, the District must provide the minimum health and safety water needs of the community at all times. The water shortage response is designed to provide a minimum of 50% of normal supply during a severe or extended water shortage. The rationing program triggering levels shown below were established to ensure this goal is met.

Although an actual shortage may occur at any time during the year, the District will use the Yield Analysis Model during the critical months of January through March to determine potential restrictions.

Water Supply Shortage Stages and Conditions		
RATIONING STAGES		
Stage No.	Water Supply Conditions on April 1st	% Shortage
I	Total Reservoir Storage < 10,400 acre-feet	15%
II	Total Reservoir Storage < 9,800 acre-feet	20%
III	Total Reservoir Storage < 8,600 acre-feet	30%
IV	Total Reservoir Storage < 6,100 acre-feet	50%

Impacts to Customers

In Stage I shortages, customers may adjust either interior or outdoor water use (or both), in order to meet the voluntary water reduction goal.

Under Stage II and Stage III mandatory rationing programs, the District has determined that a reduction of 20% (Stage II) and 30% (Stage III) will be required. That amount of water is sufficient for essential interior water with no habit or plumbing fixture changes.

Under Stage IV mandatory rationing, which is likely to be declared only as the result of a prolonged water shortage or as a result of a disaster, the health and safety allotment is reduced to 50% of average use. This allotment still provides enough water for essential interior water use plus a minimal amount of outside use.

Restriction on the use of water by Stages

Stage I - 15% Reduction

- 1) There shall be no hose washing of sidewalks, walkways, buildings, walls, patios, driveways, parking areas or other paved surfaces and walls, except to eliminate conditions dangerous to public health or safety or when required as surface preparation for the application of architectural coating or painting.
- 2) Washing of motor vehicles, trailers, boats and other types of equipment shall be done only with a hand-held bucket or a hose equipped with a positive shutoff nozzle for quick rinses, except that washing may be done by a commercial car wash using recycled water.
- 3) All water users shall promptly repair all leaks from indoor and outdoor plumbing fixtures.
- 4) Prohibition on outside water uses between the hours of 12:00 noon and 6:00 p.m. every day.

Stage II - 20% Reduction

- 1) Restrictions listed in Stage I shall be in effect, except that the restrictions on watering lawn, landscape or other turf area shall be modified to allow watering every third day except between the hours of 12:00 noon to 6:00 p.m.

Stage III - 30% Reduction

- 1) Restriction listed in Stage II shall be in effect, except that there shall be no residential outside watering of lawn, landscaping and other turf areas at any time.
- 2) The use of water from fire hydrants shall be limited to fire fighting and related activities and other uses of water for municipal purposes shall be limited to activities necessary to maintain the public health, safety and welfare.

Stage IV - 50% Reduction

- 1) Restrictions listed in Stages I, II, and III shall be in effect.
- 2) Commercial nurseries, golf courses, parks and other public open space and landscaped areas shall be prohibited from watering lawn, landscaping and other turf areas more often than every third day and between the hours of 6:00 a.m. and 6:00 p.m.

A water user may file an appeal for relief from any provisions of the various stages. The District Manager shall develop such procedures, as he or she considers necessary to resolve such appeals and shall, upon the filing by a water user of an appeal, take such steps, as he or she deems reasonable to resolve the appeal.

Water Allotment Methods

Customer allotments are based on a five-year period. This gives the District a more accurate view of the usual water needs of each customer and provides additional flexibility in determining allotments and reviewing appeals. However, no allotment may be greater than the amount used in the most recent year of the five-year base period.

It is the intent of the District to spread the reductions equally among all customers. Customers may be notified of their classification and allotment by mail before the effective date of the Water Shortage Emergency. New customers will be notified at the time the application for service is made. In a disaster, prior notice of allotment may not be possible; therefore notice will be provided by other means. Any customer may appeal the District-Manager's classification on the basis of use or the allotment on the basis of incorrect calculation.

Three-Year Minimum Supply

Law

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

(b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

Three-Year Minimum Supply

The three-year minimum supply table shown below estimates the supply based on the historical three year driest on record. The three driest years on record correspond to the first three years of the multiple dry years estimates shown in the tables at the beginning of the plan (1930-1933). The demands were adjusted to estimate the stages of reduction the District would implement.

Three-Year Estimated Minimum Water Supply - AF Year				
Source	2010	2011	2012	2013
Little Butte Creek – Surface Storage	25,323	13,098	12,749	10,651
Total	25,323	13,098	12,749	10,651

Catastrophic Supply Interruption Plan

Law

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

10632 (c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

DETERMINE WHAT CONSTITUTES A PROCLAMATION OF A WATER SHORTAGE

Interruptions in the District's water supply could be caused by events such as drought, fire, earthquake, flood, reservoir contamination and major power outages.

A proclamation of water shortage can be declared by following the steps outlined in this Water Shortage Contingency Plan. An immediate proclamation will be made by the District Manager and reviewed by the Board of Directors in an emergency meeting as soon as it can be coordinated. The various stages of this plan are dependent on the severity and nature of the catastrophe and its effect on the total water supply of the District. The following is an example of events and remedies that might likely affect the District's water supply and therefore require implementation of water rationing.

- **FIRE-** In the event of a major fire, the District's water treatment and distribution storage tanks will be operated at maximum capacity.
- **EARTHQUAKE-** In the event of a major earthquake where significant portions of the distribution system or treatment facilities are damaged District crews or contractors will work on isolating and re-routing water supplies. In the event that the District's raw water reservoirs are damaged beyond use, the District would activate the intertie agreement with Del Oro Water Company. An intertie with the DOWC has a maximum capacity of 1,000 gallons per minute (GPM) or 4.4 AF/day.
- **FLOOD-** Due to the terrain of the District, the possibility of flooding is quite remote.
- **RESERVOIR CONTAMINATION-** If contamination of the District's raw water supply occurs, the District would implement rationing, activate the intertie agreement and begin pumping from the "D" Tank well site.
- **MAJOR POWER OUTAGES-** The District is able to operate, at full capacity, the raw water pump station and water treatment plant during power outages using a 500 KVA, diesel generator. External plumbing provisions have also been provided at the District's booster pump station to allow for portable pump hook-up.

STRETCH EXISTING WATER STORAGE

Rationing provisions in the Districts Water Shortage Contingency Analysis establishes a maximum level Stage IV rationing plan that ultimately conserves 50% of firm yield.

OBTAIN ADDITIONAL WATER SUPPLIES

The District has developed a groundwater source at one of its storage sites ("D" tank). Water can be pumped directly into the distribution system. The projected yield for this source is 350 AF per year based on a 50% utilization of the well. The well is capable of producing 450 gpm or approximately 2 AF per day.

During severe drought conditions water has been diverted from an adjacent watershed. Up to 1000 AF have been obtained under these conditions.

CONTACT AND COORDINATE WITH OTHER AGENCIES

The District has developed a PID Water System Emergency Response Plan. This plan sets forth the necessary manpower, equipment and other resources to deal effectively with various disasters.

The District also has an intertie agreement with Del Oro Water Company to provide mutual assistance during water shortage emergencies (1,000 acre-feet). The District has developed other emergency plans with the Department of Health Services, California Office of Emergency Services and Butte County Office of Emergency Services.

The Town of Paradise Disaster Plan and the PID Water System Emergency Response Plan include the following elements:

- Catastrophe and disaster preparedness plan
- Employee/contractor/Agencies on-call list
- Methods to communicate with the public
- Methods to prepare for water quality interruptions

Prohibitions, Penalties and Consumption Reduction Methods

Law

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

10632 (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

10632 (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

10632 (f) Penalties or charges for excessive use, where applicable.

Mandatory Prohibitions

The following table illustrates mandatory prohibitions that are shown in detail above under the Stages of Action section.

Mandatory Prohibitions	
Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
Using potable water for street washing	Stage I
Car washing except with bucket or hose w/positive shutoff	Stage I
Outside water use between noon and 6pm	Stage I
Watering only on every third day	Stage II
Residential irrigation prohibited	Stage III
Hydrant water for public health and safety only	Stage III
Water use only 6 pm - 6am for parks, golf courses etc	Stage IV

Consumptions Reduction Methods

The following table illustrates the Consumption Reduction Methods at various stages.

Consumption Reduction Methods		
Consumption Reduction Methods	Stage When Method Takes Effect	Projected Reduction (%)
Use Prohibitions	All	0-50
Education Program	All	0-50
Voluntary Rationing	I	15
Mandatory Rationing	II-IV	20-50
Restrict for only priority uses	IV	50
Reduce pressure in water lines	IV	50
Flow Restriction	IV	50

Penalties

In the past when the District placed restrictions on water use because of low supply, penalties were established in the resolution declaring the restrictions. It is expected penalties will be established at each stage of action. A warning is provided to the customer for a first offense. A second violation results in a \$25 penalty and a third violation would result in a \$100 penalty.

The District recently adopted a new schedule of fees and charges that provide for charging a customer a fee of two times the District's highest consumption charge if they are intentionally wasting water.

The District's rates are set on a tiered basis for all business customers and all residential customers. Only Multi-Family and Irrigation Customers do not have tiered rate structures. The rate schedule to take effect on June 1, 2011 is attached at Appendix "D".

Analysis of Revenue Impacts of Reduced Sales During Shortages

Law

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

10632 (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

The District charges a service charge and a consumption charge to customers. In fiscal year ending June 30, 2010 the District received \$1.665 million in consumption revenue and \$4.012 million in service charge revenue. Consumption revenue was 29.33% of total customer revenue. The following table illustrates the impact on revenue for each of the stages using 2010 revenues.

Financial Impact using 2010 Financial Data			
Action Stage	Consumption Reduction	% of Total Revenue	Revenue Reduction
Stage I	15 %	4.4%	\$249,750
Stage II	20%	5.9%	\$333,000
Stage III	30%	8.8%	\$499,500
Stage IV	50%	14.7%	\$832,500

The District's long term financial plan has provided for the establishment of a contingency fund for water shortages to be established in 2007 at \$100,000 and increasing \$100,000 each year until a total fund amount of \$500,000 is reached. This Board designated fund has grown to \$330,000, but additional funding has stopped until the economy recovers. Economic conditions may warrant use of these funds for other needs.

After a water shortage has developed, the District will use a combination of rate adjustments, operational resource evaluations, and postponement of capital projects to address the revenue impacts of the reductions in consumption that the contingency fund cannot meet. Impacts to revenue will be evaluated prior to action being taken dependent on the rate adjustment for excessive use and waste fines established at the time action is being taken.

Additional expenditures, estimated at \$25,000 annually, are anticipated during a water shortage for public information program acceleration. A combination of public speaking outreach, increase in school educational material and the cost of additional newsletter mailings are included in this estimate. Increases in labor cost would be a minimal amount for overtime for increased leak response. It is expected that personnel would be reassigned from capital projects to monitoring and use restriction measures.

Water Shortage Contingency Ordinance/Resolution

Law

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

10632 (h) A draft water shortage contingency resolution or ordinance.

10632 (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

Mechanism to Determine Reductions in Water Use

Under normal water supply conditions, potable water production figures are recorded daily. Totals are reported monthly to the District Manager and incorporated into the water supply report to the Board of Directors. The District has completed a meter replacement project that allows for the collection of consumption by vehicle. The final stages of the project will be completed soon, allowing the District to receive daily consumption numbers and leak notifications.

During a Stage I or Stage II water shortage, daily production and consumption figures will be reported to the Office Supervisor. The Office Supervisor compares the weekly production and consumption to the target weekly production and consumption to verify that the reduction goal is being met. Weekly reports are forwarded to the District Manager. Monthly reports are sent to the Board of Directors. If reduction goals are not met, the Manager will notify the Directors so that corrective action can be taken.

During a Stage III or Stage IV water shortage, the procedure listed above will be followed, with the addition of a daily production and consumption report to the Manager.

During emergency shortages, production figures are reported to the Supervisor hourly, and to the Manager. Reports will also be provided to the Board of Directors as well as to the Butte County Office of Emergency Services.

Draft Water Shortage Contingency Resolution

The Draft Water Shortage Contingency Resolution can be found on the next page.

DRAFT

**PARADISE IRRIGATION DISTRICT
RESOLUTION NO. XX-XX
DECLARING WATER SHORTAGE EMERGENCY CONDITION**

WHEREAS, Paradise Irrigation District ("District") reservoirs contain approximately _____ acre-feet of water, being approximately _____percent of their capacity; and,

WHEREAS, the District's projected water supply for _____, including a prudent carry-over supply for _____, is inadequate to provide for the ordinary demands and requirements of water consumers; and,

WHEREAS, section 22257 of the Water Code of the State of California provides that the District may establish equitable rules for the distribution and use of water, and sections 353 to 358, inclusive, of the Water Code provide that upon declaring the existence of a Water Shortage Emergency Condition, the District may adopt regulations and restrictions on the delivery and consumption of water for the purpose of conserving the water supply for the greatest public benefit; and,

WHEREAS, the Board of Directors of the District has conducted a duly noticed hearing at which the consumers of the District's water supply have had the opportunity to be heard and present their respective needs to the Board;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of Paradise Irrigation District as follows:

1. The said Board finds and determines that the ordinary demands and requirements of the District's water consumers cannot be satisfied without depleting the District's water supply, including a prudent carry-over for _____, to the extent that there would be insufficient water for human consumption, sanitation and fire protection; and,

2. The said Board declares that a Water Shortage Emergency Condition exists within the District, and that it is necessary to conserve the District's water supply for the greatest public benefit.

PASSED AND ADOPTED at a special meeting of the Board of Directors of Paradise Irrigation District held on _____.

Water Demand Management Measures (DMM's)

Law

10631 (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:.....

The District understands that our water supplies are significantly exposed to potential drought situations. Water we can conserve becomes available in the following year if we experience a dry winter. The District has focused on DMM's that we feel are most effective in our area.

For many years the District has been replacing leaking steel pipelines. Our leak history shows the benefits of that work as leaks are reduced to near historical lows. We have benefitted greatly from several DWR grant programs for the replacement of pipeline at an accelerated pace. The most recent grant opportunity provided for replacement of mainlines on Bille Road and Skyway. The benefits particularly of the Bille Road project exceeded our expectations. Many leaks were found that were not surfacing, but flowing into a nearby drainage. The project, together with leak detection surveys, has been a large part of reducing our unaccounted water to a historical low of 11.2%.

The District committed to a \$5 million meter replacement and automation project in 2009. When completed we will have the ability to notify customers of potential leaks in their system within three days as compared to the 60 plus days when we were reading by hand on a bi-monthly basis. Since, the new system had been implemented, we have sent over 2,200 notices to our customers of potential leaks in their system.

The District is not a signatory to the Memorandum of Understanding regarding Urban Water Conservation in California (MOU) and is therefore not a member of the California Urban Water Conservation Council (CUWCC)).

For the purpose of responding to the Urban Water Management Planning Act, the District will address the Demand Management Measures.

Water Survey Programs for Residential and Multi-Family Residential Customers

DMM (A)

IMPLEMENTATION DESCRIPTION: Since 2004, the District has provided water audits at the request of customers. The public has the opportunity on our website to schedule a water audit. This is available to all types of users in the District.

The District issues letters to customers that show a higher than normal consumption use that they may have a problem. The letter offers a water audit to these customers and provides information on water conservation. We conduct an average of five audits per year.

Our Utility Billing Technician and a Meter Service Technician conduct the audits. The customers are provided with a bucket for measuring use, a low flow showerhead, a hose nozzle, toilet tank dye strips, a toilet tank bag, a water rate sheet and a conservation fact sheet. An interior check for leaks is conducted with a review of the customer's irrigation system.

IMPLEMENTATION SCHEDULE and CONSERVATION SAVINGS:

The District will continue to offer this program in the future. It is too difficult to quantify the savings, but the positive public relations the audits supply are worth the expense to the District.

METHODS TO EVALUATE EFFECTIVENESS: For a District of our size, the intangible benefit of a positive experience of customers makes the program effective.

BUDGET: The District will continue to fund the time needed for surveys and the conservation aids for customers.

Residential Plumbing Retrofit

DMM (B)

IMPLEMENTATION DESCRIPTION: The District provides information on our website with conservation information and a link to the h2ouse.org website. The District has also developed an entire portion of its website to conservation with many tips and hints at ways to conserve water.

The District provides aids to customers such as hose shut off nozzles, toilet tanks bladders, and shower heads at the District Office and public events.

IMPLEMENTATION SCHEDULE: The District will continue to provide this information and conservation aids and update it as necessary.

METHODS TO EVALUATE EFFECTIVENESS: The District will continue to offer this program in the future. It is too difficult to quantify the savings, but the positive public relations alone are worth the expense to the District.

BUDGET: The District will continue to fund the time needed for website development and the conservation aids for customers.

System Water Audits, Leak Detection

DMM (C)

IMPLEMENTATION DESCRIPTION: The District tracks and updates on a monthly basis the unaccounted water in the District, looking back over a twelve-month period. The percentage of lost water has turned extremely lower in the past two years due to pipeline replacement and leak detection surveys. The following table shows the historical percentage of and volume of unaccounted water for the past ten years.

Unaccounted Water 2001-2005					
	2001	2002	2003	2004	2005
Volume (acre-feet)	1,423	1,360	1,303	1,479	1,389
% of Production	16.6%	16.0%	16.3%	17.3%	18.0%

Unaccounted Water 2006-2010					
	2006	2007	2008	2009	2010
Volume (acre-feet)	1,534	1,570	1,537	964	740
% of Production	18.7%	19.2%	18.3%	13.3%	11.5%

The District hired an outside contractor to survey for leaks in 2008 and 2010. The most recent cost of the survey was \$15,292. Twenty seven leaks were found and estimated to save 76 acre-feet of water annually. The benefit of this saved water ranges from \$22,243 at our first tier rate to \$35,191 at our highest tier.

The District has continued to focus on pipeline replacement, as it's number one effort at demand management. Beginning in 2003, the District began replacing additional pipelines with a grant from the Department of Water Resources. The District has replaced 44,500 feet of pipe (8.4 miles) in the past five years and has 60 miles of steel pipe remaining to replace. We will continue to fund pipeline replacement on a pay as you go basis for the foreseeable future. The following table shows the pipeline replacement funding and replacement since 2005.

Pipeline Replacement Funding Activity					
FY	05-06	06-07	07-08	08-09	09-10
Funding	\$638,948	\$723,912	\$634,507	\$2,638,248	\$421,141

Pipeline Replacement Activity					
FY	2006	2007	2008	2009	2010
Feet Replaced	6,749	10,426	15,340	7,020	4,989

IMPLEMENTATION SCHEDULE: Water system audits, leak detection and repair, and mainline replacements will continuously be implemented at the District. The replacement of aging facilities is a primary focus of the District for the foreseeable future.

We expect to complete leak detection at least every other year. If we experience consecutive dry years, we will complete detection annually.

METHODS TO EVALUATE EFFECTIVENESS: The tracking of unaccounted water will continue to evaluate the effectiveness of leak detection, leak repairs and mainline replacements.

CONSERVATION SAVINGS: Since 2006, the pipeline replacement projects are calculated to have saved 584 acre-feet annually.

BUDGET: Proposed annual budget through 2015: \$800,000 (from operations and maintenance budget).

Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections

DMM (D)

IMPLEMENTATION DESCRIPTION: The District has historically required meters to all services since 1934 and will continue this requirement into the future. The customer is billed a service charge with each billing and a consumption charge for all water passing through the meter.

The District replaced approximately 7,500 meters in 2010 and retrofitted the remaining 3,000 with automated meters. Every meter in the District is now 10 years old or newer.

The District provides an “A” rate for low use customers, rewarding them for their efficient water use. They are eligible for a lower service charge, but are still billed under an inclining block rate for their usage as of June 1, 2011.

Appendix “D” shows the District’s rate schedule effective June 1, 2011.

IMPLEMENTATION SCHEDULE: No need for an implementation schedule. The District has been metering services since 1934.

METHODS TO EVALUATE EFFECTIVENESS: Periodic review of customer water use, comparing current water use per capita with historic data.

CONSERVATION SAVINGS: Residential customers using less than 85Ccf annually are eligible for a reduced service charge.

BUDGET: Meter installation costs are part of the cost for new service.

Large Landscape Conservation Programs and Incentives

DMM (E)

IMPLEMENTATION DESCRIPTION: The District has very few customers with large landscapes.

Water Audits are available to these customers if requested. Meter readings are monitored for large usage indicating leaks. The largest irrigation customer is an apple grower and uses the latest information available for water use.

In 1993, the Town of Paradise established a landscape ordinance. These requirements are in the Paradise Municipal Code and address Landscape Materials for commercial and large business development projects.

IMPLEMENTATION SCHEDULE and METHODS TO EVALUATE EFFECTIVENESS: The District will continue to monitor the usage patterns of large users and make contact if consumption is increasing. The Town of Paradise has permanently incorporated this DMM into its ordinances. The Town ordinance provides for the assurance this DMM is incorporated into all projects that require this measure.

CONSERVATION SAVINGS: Savings are difficult to calculate, but will be realized occasionally when a leak is detected by District staff. The landscape ordinance will lead to a reduction due to the installation of drought tolerant plants.

BUDGET: The Budget impact to monitor large users is minimal.

High-Efficiency Washing Machine Program

DMM (F)

IMPLEMENTATION DESCRIPTION: Using information provided by the H2ouse.org website, it was determined that the use of high efficiency clothes washers provides a savings of 5.6 gallons per person per day. With the District average of 2.14 persons per household, it was calculated that the anticipated water savings per household would be 12 gallons per day.

The District has calculated that this equates to a savings of 0.0134 acre-feet annually per household. A \$200 rebate per washing machine would cost \$14,925 per acre-foot saved. The average consumption revenue per acre-foot of water for the District in 2010 was \$266.74, resulting in a benefit-cost ratio of 0.0178 and would take 56 years to pay for it.

Non-economic benefits of this DMM include additional awareness in water conservation and the potential reduction in the size of future water supply projects, resulting in less of an impact to the environment. Non-economic costs included additional workload and management of program on existing staff.

The District has estimated that using historical pipeline replacement projects; the capital cost per acre-foot of average annual water saved over the life expectancy of the pipeline is \$10,107. This does not account for the reduction in leak repair costs the District will experience in the future. The cost per acre-foot of average annual water provided by the raising of Paradise Lake or repairing Magalia Reservoir ranges from \$1,360 to \$1,921.

Because of the cost difference between this DMM and the cost of mainline replacement, the District will continue to focus on replacement of leaking pipelines in the near future while determining the most cost effective water supply project.

IMPLEMENTATION SCHEDULE: The District will continue to look for a grant opportunity to fund a washing machine rebate program.

METHODS TO EVALUATE EFFECTIVENESS: The District will annually compare the cost of a washing machine rebate program with replacement of mainline.

Public Information Programs

DMM (G)

IMPLEMENTATION DESCRIPTION: The District promotes water conservation several ways. The primary source of conservation information to our customers is through our website. The District also provides information to new customers encouraging water conservation. A section is dedicated to conservation and one of our most popular sites is the drought tolerant plant section. In the 2010 we have experienced 3,894 hits on our various conservation pages.

Since 1993, the District sponsored a water awareness day each year that focused on the importance of water in our community, including conservation. In 2005, the District began to conduct a Ridge Water Tour to provide information to the customers on our Water Supply and District issues as a replacement to the water awareness event. Information is provided on water conservation.

District staff has developed a program that is on our website titled:

“Ten Simple Ways to Save Water”

1. Avoid loss at the faucet by checking for leaks.
2. Meet your meter, Monitor your usage.
3. Shower yourself with savings. Go low-flow.
4. Use food coloring in the toilet to detect leaks.
5. Water early to avoid evaporation.
6. Measure usage with tuna cans.
7. Time your water usage.
8. Install a Tank Bank.
9. Raise the blades on your lawnmower.
10. Use a water nozzle with a shut off valve.

Each fall customers are reminded to adjust their irrigation times for cooler weather.

IMPLEMENTATION SCHEDULE: The District will continue to provide public information services and materials to remind the public about water and other resource issues and maintain its website with relevant information.

METHODS TO EVALUATE EFFECTIVENESS: The District will track the activity on our website regarding the information provided. For a District of our size, the intangible benefits of a positive experience of customers make the program effective.

CONSERVATION SAVINGS: The District has no method to quantify the savings of this DMM but believes that this program is in the public’s interest.

BUDGET: The District will continue to fund these low budgetary impact tools for conservation.

School Education Programs

DMM (H)

IMPLEMENTATION DESCRIPTION: In the past five years, the District has stepped up its efforts on the education of school age children.

Paradise Irrigation District has been hosting two WET Festivals for area 4th grade students in May. It is a fun-filled, hands-on water education event using activities from Project WET and specific to our District. At the event the students learn about the Water Cycle / Water Conservation, Water Filtration and Watershed and Groundwater. They also have a guided tour of our water treatment plant.

IMPLEMENTATION SCHEDULE: The District will continue to implement this DMM at the levels described.

METHODS TO EVALUATE EFFECTIVENESS: The effectiveness is difficult to evaluate, but the anecdotal stories of children relaying the water education message to adults illustrates the impact of the program.

CONSERVATION SAVINGS: The District has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

BUDGET: The District will continue to fund these low budgetary impact tools for conservation.

Conservation Programs for Commercial, Industrial and Institutional Accounts

DMM (I)

IMPLEMENTATION DESCRIPTION: There are very few commercial and industrial customers in the District. As with all customers, the District has offered water use audits to any commercial/industrial/institutional (CII) customer that makes the request.

IMPLEMENTATION SCHEDULE and CONSERVATION SAVINGS: The District will continue to implement this DMM.

METHODS TO EVALUATE EFFECTIVENESS: The District will continue to conduct water audits at customer requests, and will initiate water audits if consumption is increasing.

BUDGET: The District will continue to fund these low budgetary impact tools for conservation.

Conservation Pricing

DMM (K)

IMPLEMENTATION DESCRIPTION: The District has an inclining block rate structure for all customer sectors except Multi-Family Units, Residential Care Facilities, and Crop Irrigation Customers. Residential customers that demonstrate an annual use less than 85 Ccf are eligible for a reduced monthly service charge. In the most recent rate increase, the second and third block had a significant increase above the basic increase.

Appendix "D" shows the District's rate schedule effective June 1, 2011.

METHODS TO EVALUATE EFFECTIVENESS: Annually, all residential customer accounts are reviewed to determine their eligibility for the reduced monthly service charge. We monitor and track the amount of consumption reaching the second and third tier.

CONSERVATION SAVINGS: The incentive of this DMM is to decrease the customer's water costs and water use through price incentives as described above.

BUDGET: The cost to monitor accounts is included in the District's operation budget.

Water Conservation Coordinator

DMM (L)

IMPLEMENTATION DESCRIPTION: The District is not a large organization and since 2002, the District Manager has coordinated the water conservation activities of the District.

IMPLEMENTATION SCHEDULE: The District will continue to require the District Manager to coordinate these duties.

METHODS TO EVALUATE EFFECTIVENESS: The District will continuously evaluate the need to provide additional resources beyond the use of the District Manager.

Water Waste Prohibition

DMM (M)

IMPLEMENTATION DESCRIPTION: The District Board has adopted the following Wise Water Use Regulations that are permanently in effect:

- A prohibition on outside water uses between the hours of 12:00 noon and 6:00 pm.
- A prohibition on the excessive use of any outside watering, which results in runoff onto walks, driveways, streets, or any other surface not reasonably expected to benefit from the authorized use of water.
- Washing a vehicle is acceptable at any time of the day with the use of a shutoff nozzle.

Occurrences of non-compliance, reported to, or observed by a District representative will be followed by a personally delivered or mailed written warning. Only one such warning will be issued. Second and subsequent violations, observed by a District representative, will result in a personally delivered or mailed written notice of a \$25.00 Quantity Surcharge to appear on the next water bill.

The District has also implemented a Wasteful Use Fee that would result in consumption charges being billed at two times the highest tiered consumption charge. This would be implemented on customers refusing to stop a wasteful use of water after being notified by the District.

IMPLEMENTATION SCHEDULE: Wise Water Use Regulations are in effect and confirmed annually by the Board of Directors.

METHODS TO EVALUATE EFFECTIVENESS: The District will maintain a record of violations.

CONSERVATION SAVINGS: The District has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

BUDGET: Enforcement costs are a part of the District's overhead.

Residential Ultra-low Flush Toilet

DMM (N)

IMPLEMENTATION DESCRIPTION: The District adopted a new annexation policy in 2004 that requires any annexations to the District must mitigate the demands anticipated for the development. One option provided is the replacement of toilets with Ultra Low Flush Toilets. It was calculated for our District that the anticipated water savings per household would be 32.3 gallons per day.

The District has calculated that this equates to a savings of 0.0362 acre-feet annually per household. Assuming 2.5 toilets per home, a \$100 rebate per toilet would cost \$6,909 per acre-foot saved. The average consumption revenue per acre-foot of water for the District in 2010 was \$266.74, resulting in a benefit-cost ratio of 0.0386.

Non-economic benefits of this DMM include additional awareness in water conservation and the potential reduction in the size of future water supply projects, resulting in less of an impact to the environment. Non-economic costs included additional workload and management of program on existing staff.

The District does not have the staff time available to dedicate to the execution of a toilet replacement program. We will continuously evaluate the need for this program to determine if it should be pursued.

IMPLEMENTATION SCHEDULE: The District will continue to look for a grant opportunity to fund a toilet replacement program.

METHODS TO EVALUATE EFFECTIVENESS: The District will regularly compare the cost of a toilet replacement program with other DMM's.

Public Participation

Law

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published ... After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

Public Participation

The Paradise Irrigation District has actively encouraged community participation in its urban water management planning efforts since the first plan was developed in 1986. Public meetings were held for the 1986, 1989, 1996, 2000 and 2005 plans. The UWMP was discussed at public Board meetings prior to and during the preparation of the UWMP. The District actively encourages community participation from the public including the diverse social, cultural, and economic elements of the population.

For this update to the Urban Water Management Plan, a public hearing was scheduled at the District Office on June 29, 2011. The hearing was held on June 29, 2011 at 6:30 pm. The plan was available for public inspection at the District Office, the local library and posted on the District's website for comments. Legal public notices were published in the local newspapers and posted at local facilities. A copy of the Legal Notice for the Public Hearing is attached as Appendix "A".

Plan Adoption

The Paradise Irrigation District prepared this update of its Urban Water Management Plan during spring of 2011. The updated plan was adopted by District's Board of Directors in June 2011 and submitted to the California Department of Water Resources and the California State Library within 30 days of Board approval. Attached as Appendix "B" are copies of the signed Resolution of Plan Adoption. This plan includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning).

Agency Coordination

Law

10620 (d) (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

Coordination with other Agencies

Paradise Irrigation District notified by letter the Town of Paradise, Del Oro Water Company (DOWC), a neighboring retail water company and the Butte County Department of Water and Resource Conservation that the District was updating our UWMP on March 17, 2011.

The District continues to promote cooperation and sharing of planning information between Butte County Water Commission, Butte County Department of Water and Resource Conservation, and DOWC to facilitate the implementation of solutions to Paradise ridge water supply reliability problems.

The following table summarizes the efforts the District has taken to include various agencies and citizens in its planning process.

Coordination with Appropriate Agencies							
Coordinating Agencies	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not involved / No information
Del Oro Water				✓	✓	✓	
Butte Co. Water& Res.				✓	✓	✓	
Town of Paradise				✓	✓	✓	
General public					✓	✓	

APPENDIX A

Legal Notice Of Public Hearing

Chico Enterprise-Record

400 E. Park Ave.
Chico, Ca 95928
530-896-7702
erlegal@chicoer.com

PARADISE IRRIGATION DISTRICT / LEGALS
PO BOX 2409
PARADISE CA 95967

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA, IN AND FOR THE COUNTY OF BUTTE

In The Matter Of
NOTICE OF PUBLIC HEARING.

AFFIDAVIT OF PUBLICATION

STATE OF CALIFORNIA }
COUNTY OF BUTTE } **SS.**

The undersigned resident of the county of Butte, State of California, says:

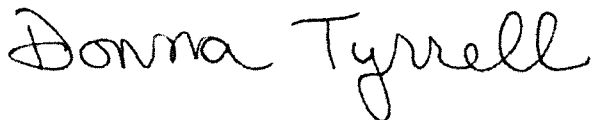
That I am, and at all times herein mentioned was a citizen of the United States and not a party to nor interested in the above entitled matter; that I am the principal clerk of the printer and publisher of

**The Chico Enterprise-Record
The Oroville Mercury-Register**

That said newspaper is one of general circulation as defined by Section 6000 Government Code of the State of California, Case No. 26796 by the Superior Court of the State of California, in and for the County of Butte; that said newspaper at all times herein mentioned was printed and published daily in the City of Chico and County of Butte; that the notice of which the annexed is a true printed copy, was published in said newspaper on the following days:

6/14/2011, 6/23/2011

Dated June 28, 2011
at Chico, California



(Signature)

RECEIVED

JUN 30 2011

Paradise Irrigation District

Legal No. **0004037691**

PARADISE IRRIGATION DISTRICT NOTICE OF PUBLIC HEARING REGARDING THE PID URBAN WATER MANAGEMENT PLAN 2010 UPDATE

NOTICE IS HEREBY GIVEN that the Paradise Irrigation District (PID) will hold a public hearing regarding review and adoption of its Urban Water Management Plan (UWMP). The public may present oral or written comments as part of the public hearing. In compliance with the Water Conservation Act of 2009 (Act), the public may comment on the terms and conditions of the UWMP including, without limitation, giving input regarding PID's implementation plan for complying with the Act; economic impacts of PID's Implementation plan; and PID's method for determining its water use target pursuant to the Act. The meeting will be held Wednesday, June 29, 2011 at 6:30 p.m. at PID's Office, 6332 Clark Road, Paradise, California.

The Urban Water Management Plan is available for review at PID's District Office, the Paradise Branch of the Butte County Library, 5922 Clark Road, or by visiting the District's website at www.paradiseirrigation.com.

PARADISE IRRIGATION DISTRICT
George Barber, District Manager
Dated June 6, 2011
Publish: 6/14, 6/23, 2011

PARADISE POST

PO Drawer 70
Paradise, CA 95967
530-877-4413
legals@paradisepost.com

RECEIVED

JUN 29 2011

Paradise Irrigation District

PARADISE IRRIGATION DISTRICT
PO BOX 2409
PARADISE CA 95969

Declaration of Publication

State of California
County of Butte

That at all times herein mentioned Declarant is and was a resident of said county of Butte over the age of twenty-one years; not a party to nor interested in the within matter; that Declarant is now and was at all times herein mentioned the Legal Clerk of the Paradise Post, a tri-weekly newspaper, which said newspaper was adjudged a newspaper of general circulation on November 12, 1946, by Superior Court Order No. 22262 as entered in Book 30 Page 223 of said Court; and that said newspaper is printed and published every Tuesday, Thursday and Saturday.

NOTICE OF HEARING

Hearing UWMP 2010 Update

6/14/2011, 6/23/2011

and such publications was made in the regular issues of said paper (and not in any supplemental edition or extra thereof).

06/08/11



Signature

Legal No.

0004036661

PARADISE IRRIGATION DISTRICT

NOTICE OF PUBLIC HEARING

REGARDING THE PID URBAN WATER MANAGEMENT PLAN 2010 UPDATE

NOTICE IS HEREBY GIVEN that the Paradise Irrigation District (PID) will hold a public hearing regarding review and adoption of its Urban Water Management Plan (UWMP). The public may present oral or written comments as part of the public hearing. In compliance with the Water Conservation Act of 2009 (Act), the public may comment on the terms and conditions of the UWMP including, without limitation, giving input regarding PID's implementation plan for complying with the Act; economic impacts of PID's implementation plan; and PID's method for determining its water use target pursuant to the Act. The meeting will be held Wednesday, June 29, 2011 at 6:30 p.m. at PID's Office, 6332 Clark Road, Paradise, California.

The Urban Water Management Plan is available for review at PID's District Office, the Paradise Branch of the Butte County Library, 5922 Clark Road, or by visiting the District's website at www.paradiseirrigation.com.

PARADISE
IRRIGATION
DISTRICT
George Barber,
District Manager
Dated June 6, 2011

June 14, 23, 2011
317-11

APPENDIX B

Resolution Of Plan Adoption

PARADISE IRRIGATION DISTRICT

RESOLUTION NO. 2011-06

A RESOLUTION OF THE BOARD OF DIRECTORS OF
THE PARADISE IRRIGATION DISTRICT
ADOPTING THE 2010 URBAN WATER MANAGEMENT PLAN
FOR PARADISE IRRIGATION DISTRICT

The Paradise Irrigation District does hereby resolve as follows:

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-84 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the District is an urban supplier of water providing water to more than 3,000 customers, and

WHEREAS, Senate Bill x7-7, the Water Conservation Act of 2009 ("SB x7-7"), was enacted in November 2009 and established a goal of achieving a 20% reduction in statewide urban per capita water use by the year 2020 and an incremental 10% reduction by 2015; and

WHEREAS, SB x7-7 mandates each urban retail water supplier to determine its urban water use target, or baseline, from which to measure the 10% and 20% conservation goals; and

WHEREAS, the District has adopted water use target one (1) and has determined its average gross water use, in gallons per capita per day, is 218; and

WHEREAS, the District has conducted at least one public meeting on June 29, 2011, to allow community input regarding the District's implementation plan; to consider economic impacts of the implementation plan; to adopt a method for determining its baseline from which to measure the 10% and 20% conservation goals, and to receive input and comment from the public concerning the terms and adoption of the 2010 Urban Water Management Plan; and

WHEREAS, the District notified the public of the availability of its draft 2010 Urban Water Management Plan and of the public meeting to discuss the terms and adoption of the Plan by publications in the Paradise Post and Enterprise Record on June 14, 2011, and June 23, 2011; and

WHEREAS, the Plan may be periodically reviewed at least once every five years, and the District may make any amendments or changes to its plan which are indicated by the review, or by requirements of the State of California Department of Water Resources; and

WHEREAS, the Plan must be formally adopted by the Board of Directors after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS, the District desires to adopt said Plan and to file it as required by law.

NOW, THEREFORE, BE IT RESOLVED by the Paradise Irrigation District as follows:

1. The above recitals are true and correct and are adopted by the Board of Directors as findings;
2. The 2010 Urban Water Management Plan is hereby adopted and ordered filed with the Town of Paradise;
3. The District Manager is hereby authorized and directed to file the 2010 Urban Water Management Plan with the California Department of Water Resources not later than 30 days after this date;
4. The District Manager is hereby authorized and directed to implement the Water Conservation Programs as set forth in the 2010 Urban Water Management Plan, which includes water shortage contingency analysis and recommendations to the Board of Directors regarding necessary procedures, rules, and regulations to carry out effective, equitable, and cost conscious water conservation programs;
5. The District Manager may recommend to the Board of Directors additional procedures, rules, and regulations to carry out the terms and conditions of the 2010 Urban Water Management Plan.

PASSED AND ADOPTED this 29th day of June, 2011, by the following vote at a special meeting of the Board of Directors:

AYES: Directors Sep Carola, Bill Kellogg, Larry Duncan, and Ken Hunt
NOES: None
ABSENT: Director Rick Hall
ABSTAIN: None

PARADISE IRRIGATION DISTRICT

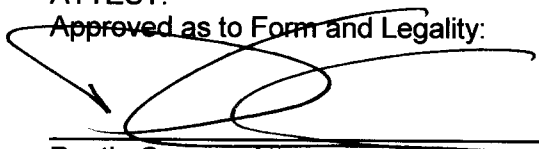

Kenneth G. Hunt, President

ATTEST:


Georgeanna Borrayo, Secretary

ATTEST:

Approved as to Form and Legality:


Dustin Cooper, Attorney at Law

APPENDIX C

Butte County Groundwater Management Plan Introduction

Section 1

Introduction

1.1 Plan Authority and Administration

On August 26, 2003, the Butte County Board of Supervisors formally approved resolution 03-134 directing the Butte County Department of Water and Resource Conservation (Department) to proceed with the development of a countywide AB 3030 Groundwater Management Plan (GMP). The resolution is included as Appendix A. The County is an authorized groundwater management agency within the meaning of California Water Code (CWC) § 10753¹ (b) as a consequence of the fact that the County provides flood control services in County Service Area 24. The plan does not conflict with existing groundwater ordinances and groundwater management plans, the Department shall endeavor to coordinate this GMP with local agencies that have adopted rules and regulations to implement and enforce their own AB 3030 plans as required by CWC § 10753.9(a).

The Department has been participating in groundwater management activities for multiple years. The Department has focused on helping local users manage groundwater more effectively through several programs. In the last several years, the Department has increased groundwater level and quality monitoring, and has worked with other entities to collect and disseminate water quality and quantity data. Additionally, the Department assists other entities within the County with locally-driven groundwater management activities. The GMP documents the County's existing groundwater management programs, and explains potential future actions to increase the effectiveness of groundwater management.

AB 3030 History

The California Groundwater Management Act, or AB 3030, was adopted by the California legislature in 1992, which created provisions in the California Water Code Sections 10750 et.seq. to manage the safe production, quality and proper storage of groundwater. Though adoption of a Groundwater Management Plan is not required by law it is encouraged. AB 3030 is applicable to local agencies, including counties, to

¹ CWC § 10753(a) Any local agency, whose service area includes a groundwater basin, or a portion of a groundwater basin, that is not subject to groundwater management pursuant to other provisions of law or a court order, judgment, or decree, may, by ordinance, or by resolution if the local agency is not authorized to act by ordinance, adopt and implement a groundwater management plan pursuant to this part within all or a portion of its service area.

(b) Notwithstanding subdivision (a), a local public agency, other than an agency defined in subdivision (g) of Section 10752, that provides flood control, groundwater management, or groundwater replenishment, or a local agency formed pursuant to this code for the principal purpose of providing water service that has not yet provided that service, may exercise the authority of this part within a groundwater basin that is located within its boundaries within areas that are either of the following:

(1) Not served by a local agency.

(2) Served by a local agency whose governing body, by a majority vote, declines to exercise the authority of this part and enters into an agreement with the local public agency pursuant to Section 10750.7 or 10750.8.

develop a county-wide groundwater management plan for portions of the groundwater basin not presently covered by another groundwater management plan. As stated above, in August 2003 the Butte County Board of Supervisors approved Resolution 03-134 (Appendix A) directing the Department of Water and Resource Conservation to proceed with the development of a county-wide AB 3030 Plan.

Per Water Code Section 10750 et.seq., the County's AB 3030 Plan is a stand alone document. According to the State Department of Water Resources (DWR), 149 agencies have adopted AB 3030 plans and others have begun the process. In some basins groundwater is managed by statutory or judicial authority.

One benefit to Butte County's adoption of its AB 3030 Plan is to meet objectives of grant funding opportunities available under the Groundwater Management Assistance Program (AB 303). Last January 2004 Butte County applied for an AB 303 grant in the amount of \$236,000 to support the development of a Basin Management Objective (BMO) Information Center, which is a web-based data center with GIS components. The County's grant application was outscored by competing proposals primarily because the County did not have an AB 3030 Plan in place.

The County DW&RC has developed the AB 3030 Plan to remain in context with the proposed County Integrated Water Resources Plan which is anticipated to be considered by the Board in early 2005. The DW&RC desires to perform and evaluate the scientific studies that will be necessary in the future to assist local policy makers.

Section 1.2 discusses the GMP's objectives, and Section 1.3 outlines the area covered by the GMP. The overall plan development process, as required by the CWC, is described in detail in Section 1.4, and the public involvement process is described in Section 1.5

1.2 Plan Objectives

The GMP supports the long-term maintenance of high quality groundwater resources within the Plan Area for agricultural, environmental, rural domestic and urban needs. Specifically, the Butte County Groundwater Management Plan endeavors to:

- Minimize the long-term drawdown of groundwater levels;
- Protect groundwater quality;
- Prevent inelastic land surface subsidence from occurring as a result of groundwater pumping;

- Minimize changes to surface water flows and quality that directly affect groundwater levels or quality;
- Minimize the effect of groundwater pumping on surface water flows and quality; and
- Evaluate groundwater replenishment and cooperative management projects.

1.3 Area Covered by Plan

The Butte County GMP includes those areas overlying a groundwater basin or associated groundwater sub-basin within Butte County not otherwise managed under an existing AB 3030 groundwater management plan (CWC § 10750.2(b)) or regulated by the Public Utilities Commission (CWC § 10750.7(a)). The Sacramento Valley Groundwater Basin resources within Butte County are located in the North Yuba, East Butte, West Butte, and Vina groundwater sub-basins. These sub-basins are shown on Figure 1-1.

The Butte County GMP Plan Area is shown on Figure 1-2. Areas managed under existing AB 3030 Groundwater Management Plans by a local agency (CWC § 10750.2(b)), and therefore excluded from inclusion in this GMP, include those areas within the borders of the Biggs-West Gridley Water District, Butte Water District, Richvale Irrigation District, and Western Canal Water District. Areas overlying the groundwater basin that are regulated by the Public Utilities Commission (CWC § 10750.7(a)), and therefore excluded from inclusion in this GMP, include those areas within the service area of California Water Service Company – Chico and California Water Service Company – Oroville. Additionally, the foothill and mountain areas of the County do not overlie groundwater basins as defined in Department of Water Resources (DWR) Bulletin 118-2003, and are therefore not included under this GMP.

Within Table 1-1, Inventory Units correspond to the above referenced groundwater sub-basins. Inventory Sub-units represent a geographical area that is a subset to an Inventory Unit. Inventory Sub-units generally represent organized water suppliers or other independent water use areas that have common land use and water supply sources. Water resources within Inventory Units and Inventory Sub-units have been characterized in detail in the reports *Butte County Groundwater Inventory Analysis* (DWR, 2000) and *Butte County Water Inventory and Analysis* (CDM, 2001). These reports are available at the Butte County Department of Water and Resource Conservation office library for use by the public.

**Table 1-1
Butte County AB 3030 GMP Included Areas**

Inventory Units	Inventory Sub-Units	Areas Within Sub-Units	Included in Butte County GMP
East Butte	Biggs-West Gridley	Biggs-West Gridley Water District	
		City of Biggs	*
		City of Gridley	*
	Butte	Butte Water District	
		City of Biggs	*
		City of Gridley	*
	Butte Sink Cherokee	All	*
		All	*
	Esquon	Durham Mutual Water District	*
		All Other Areas	*
	Pentz	All	*
	Richvale	Richvale Irrigation District	
	Thermalito	Thermalito Irrigation District	*
		All Other Areas	*
	Western Canal	Western Canal Water District	
North Yuba	North Yuba	California Water Service, Oroville	
		All Other Areas	*
Vina	Vina	California Water Service, Chico	
		All Other Areas	*
West Butte	Angel Slough	All	*
	Durham/ Dayton	California Water Service, Chico	
		Dayton Mutual Water District	*
		Durham Irrigation District	*
		All Other Areas	*
	Llano Seco	All	*
	M&T	M&T Ranch	*
	Chico Urban Area	All	*
	Western Canal	Western Canal Water District	

Note that the Chico Urban Area, which may include portions of the West Butte and Vina sub-inventory units, or that portions of that BMO sub-unit that are not presently covered by an AB 3030 Plan by the local water purveyor, are addressed in the Butte County GMP.

Areas overlying the groundwater basin that are regulated by the Public Utilities Commission (CWC Section 10750.7(a)), including the area served by the California

Water Service Company – Chico, are managed under an Urban Water Management Plan and are not included in the Butte County GMP.

1.4 Plan Development Process

There are five main steps in the development of an AB 3030 groundwater management plan, defined under CWC § 10753.2 through 10753.6, as summarized below.

Step 1- Provide public notification of a hearing on whether or not to adopt a resolution of intention to draft a GMP and subsequently complete a hearing on whether or not to adopt a resolution of intention to draft a GMP. Following the hearing, draft a resolution of intention to draft a GMP.

Step 2 - Adopt a resolution of intention to draft a GMP and publish the resolution of intention in accordance with public notification (6066 gov code). Upon written request, provide copy of resolution of intention to interested persons. The Butte County Board of Supervisors adopted the resolution of intention to develop a GMP on August 26, 2003.

Step 3 - Prepare draft GMP within 2 years of resolution of intention adoption. Provide to the public a written statement describing the manner in which interested parties may participate in developing the GMP, as discussed in section 1.5 below. This may also include appointing a Technical Advisory Committee (TAC).

Step 4 - Provide public notification (6066 gov code) of a hearing on whether or not to adopt the GMP, followed by a hearing on whether or not to adopt the GMP.

Step 5 - If Protests are received for less than 50% of the assessed value of property in the county area the plan may be adopted within 35 days after completion of Step 4 above. If Protests are received for greater than 50% of the assessed value of the property in the county area, the plan will not be adopted. Section 10753.6 of the California Water Code (re: writing protest: content; majority protest) states that in order for a majority protest to exist to the adoption of the plan, written protests covering over 50% of the assessed value of the land area (as shown in Section 1, Figure 1-2 of the draft GMP) must be filed and not withdrawn before the conclusion of the second public hearing.

At its September 28, 2004 meeting the Butte County Board of Supervisors conducted a public hearing and approved the County GMP on a unanimous vote. The draft Butte County GMP was prepared in accord with CWC Section 10750 et.seq.. The availability of the draft GMP was announced at the April 6, 2004 meeting of the Butte County Water Commission. The public review draft was posted on the Department's (Department of Water and Resource Conservation – DW&RC) web-site and hard copies of the draft were also placed in local Butte County libraries in April 2004.

In addition to the activities described above the public was notified of the availability to review the draft GWP in its “WaterSolutions” newsletter which includes a mailing list of approximately 200 persons and organizations. Further, public notices were placed in local newspapers (Gridley, Chico, Oroville, Paradise) in May 2004 to inform the community that the draft GMP was available for review and comment. Comments were requested by June 30, 2004, however, many were received by the Department through late August 2004.

At its August 3, 2004 meeting the Butte County Water Commission moved that the draft GMP be taken to the Board and set a public hearing to announce their intention to adopt a GMP. On August 17, 2004 the Board adopted Resolution No. 04-152 (attached in Appendix G) to schedule a public hearing on September 28, 2004 for the purposes of hearing protests and adopting the draft GMP.

The County received numerous helpful comments to the draft GMP but did not receive written protests regarding the plan’s adoption. A copy of Resolution No. 04-181 passed by the Board by unanimous vote on September 28, 2004 is included in Appendix G.

1.5 Public Outreach and Education

Public outreach and education is a primary function of the Butte County Department of Water and Resource Conservation. The Department encourages two-way dialogue, characterized by information dissemination and requests for suggestions and feedback on Department activities. In addition to public outreach completed during development of the GMP as required under CWC § 10753.2 through 10753.6, the Department has regularly disseminated information on GMP development as part of its ongoing public outreach effort.

GMP-related information and draft documentation are available to the public on the Department’s website (<http://www.buttecounty.net/waterandresource/>) and have been included in the Department’s monthly newsletter, *Water Solutions*, that is distributed in hardcopy and via e-mail to all interested parties. The Department also provides regular updates on plan development to the Butte County Water Commission and Board of Supervisors, with opportunity for the public to provide comment directly to Water Commission and Board of Supervisor members.

The Department has reported on GMP development during meetings with interested stakeholders. Stakeholder groups include the Butte Basin Water Users Association, Upper Ridge Coordinating Committee, Integrated Plan Steering Committee, and the Integrated Watershed Stakeholders Group. Individuals attending these meetings typically represent a wide range of organizations, including watershed groups, water agencies, independent groundwater users, interest groups and the general public.

Future GMP public outreach and education will focus on GMP implementation activities. Following the Board of Supervisors' February 10, 2004 approval of a Basin Management Objective (BMO) ordinance, the Department is supporting local areas pursuing development of BMOs within their respective areas. Butte County Ordinance 3869, describing BMO development and implementation, is included as Appendix B. The Department has developed a Basin Management Objective Development Packet for use by local BMO representatives in each of the 16 areas identified in the approved ordinance. The packets are intended to provide information and guidance necessary to develop BMOs within each area.

In June 2004 the Department facilitated a meeting in Durham, California to educate the community and to initiate development of BMOs and the formation of a Water Advisory Committee (WAC) to support their development. In July 2004 the Department conducted five additional meetings held in Chico, Oroville, Gridley, Durham and Magalia to introduce the draft County Integrated Water Resource Plan, of which BMOs, and the draft AB 3030 Plan, are important components as they regard integrated water resource planning.

1.6 Management Plan Components

The Butte County GMP includes the following required and recommended components:

- CWC § 10750 *et seq.* (seven mandatory components). Recent amendments to the CWC § 10750 *et seq.* require GMPs to include several components to be eligible for award of funding administered by DWR for the implementation of groundwater related studies, construction of groundwater projects and groundwater quality projects. These amendments to the CWC were included in Senate Bill 1938, effective January 1, 2003.
- CWC § 10750 *et seq.* (12 voluntary components). CWC § 10750 *et seq.* includes 12 specific technical issues that could be addressed in GMPs to manage the basin optimally and protect against adverse conditions.
- DWR Bulletin 118-223 components (seven recommended components).

Table 1-2 summarizes the required and recommended components of an AB 3030 plan pursuant to current guidance and the report section where each component is addressed.

1.7 Organization of AB 3030 Groundwater Management Plan

This GMP is organized into four sections:

- Section 1 – Introduction;

- Section 2 – Water Resources Setting;
- Section 3 – Plan implementation; and
- Section 4 – References.

To support the GMP the following appendices have been added:

- Appendix A – Resolutions passed by the Butte County Board of Supervisors
- Appendix B – Butte County Code, Chapter 33A Groundwater Management (BMO Ordinance)
- Appendix C – Butte Basin Water Users Association Groundwater Status Report 2004
- Appendix D – Butte County Code, Chapter 33 Groundwater Conservation
- Appendix E – Butte County Code, Chapter 23B Water Wells
- Appendix F – California Code of Regulations, Title 3 Pesticides and Pest Controls
- Appendix G – Public comments to the draft GMP and DW&RC responses to comments, discussed at the September 28, 2004 public hearing of the Board of Supervisors

Table 1-2
Butte County AB3030 GMP Components

Plan Component Description	Butte County Plan Section
CWC § 10750 et seq., Mandatory Components	
1. Documentation of public involvement statement	1.5
2. Establish basin management objectives	3.2, 3.5.3, 3.6.1
3. Monitoring and management of groundwater elevations, groundwater quality, inelastic land surface subsidence, and changes in surface water flows and quality that directly affect groundwater levels or quality or are caused by pumping.	3.4
4. Plan to involve other agencies located within groundwater basin.	3.7.2
5. Adoption of monitoring protocols by basin stakeholders.	3.4, 3.5.3
6. Map of groundwater basin showing area of agency subject to GMP, other local agency boundaries, and groundwater basin boundary as defined in DWR Bulletin 118.	Figure 1-1 Figure 1-2
7. For agencies not overlying groundwater basins, prepare GMP using appropriate geologic and hydrogeologic principles.	1.3
CWC § 10750 et seq., Voluntary Components	
8. Control of saline intrusion.	3.4.2, 3.6.2
9. Identification and management of wellhead protection areas and recharge areas.	3.5.6
10. Regulation of the migration of contaminated groundwater.	3.5
11. Administration of well abandonment and well destruction program.	3.5.1

12. Mitigation of conditions of overdraft.	3.6.3
13. Replenishment of groundwater extracted by water producers.	3.6.3
14. Monitoring of groundwater levels and storage.	3.4.1
15. Evaluate conjunctive use operations.	3.6.2, 3.6.3
16. Identification of well construction policies.	3.5.1
17. Construction and operation by local agency of groundwater contamination cleanup, recharge, storage, conservation, water recycling, and extraction projects.	3.6.3
18. Development of relationships with state and federal regulatory agencies.	3.7.1
19. Review of land use plans and coordination with land use planning agencies to assess activities that create reasonable risk of groundwater contamination.	3.5.5
DWR Bulletin 118 Suggested Components	
20. Manage with Guidance of advisory committee.	3.6.1, 3.7.2
21. Describe area to be managed under GMP.	1.3
22. Create link between BMOs and goals and actions of GMP.	Section 3
23. Describe GMP monitoring program.	3.4
24. Describe integrated water management planning efforts.	3.8
25. Report on implementation of GMP.	3.9.1
26. Evaluate GMP periodically.	3.9.2

APPENDIX D

Paradise Irrigation District Rate Schedule Effective June 1, 2011

Important Terms & Information

Appeal Process: Any customer who by reason of special circumstances, believes that these rates have been incorrectly applied to his or her account, may, within thirty (30) days after the billing date, appeal to the District Manager or to such appeal panel as may be appointed by the Board. Any disputes not resolved by such an appeal may be further appealed to the Board of Directors within fifteen (15) days after a notice of decision has been given. The filing of an appeal shall not postpone the due date of the billing.

Ccf = 100 cubic Feet = 748 gallons

Due Dates: You are billed monthly for water service. Bills are payable upon presentation and delinquent 50 days after the service period ends. Failure to receive a bill does not excuse late payment. Any unpaid balance at the next reading date will be subject to a 10% penalty.

(EDU) Equivalent Dwelling Unit: Any mobile home pad, apartment, separate structure of building with habitable space or facilities that could be used for living, sleeping, eating, or cooking, which could be rented and/or occupied by an individual or family. This does not include a home business, which is contained within a single structure (including an attached garage) and operated by occupant.

Examine your bill: Important information is contained on your water bill. If there are errors on your bill please contact us immediately. Verify that we have the correct service address, mailing address, EDU'S, Owner Name, and Rate Code. See "appeal process" above for more information.

Fire Hydrant Maintenance Surcharge: Each customer's water bill will reflect an additional \$1.00 fee collected for the Town of Paradise.

New Owners: New owners of property are placed on the "B" rate automatically. Your rate will be recalculated in April after you have owned the property for one year.

Rate Codes: Rate codes are listed after each service rate in parenthesis. Examine your bill to ensure that the correct rate code is listed.

Sealed Meters: You may have your meter sealed to reduce your monthly service charge. Water cannot be drawn from a sealed meter. Meters sealed for non-payment require full payment of account plus any sealed meter charges in order for water service to be restored.

Who can receive a bill: District policy requires that the "recorded owner receive the water bill". Delinquent bills constitute a possible lien on the property. Duplicate bills for tenants or other parties are available upon request, for an additional \$1.00 per bill, per billing period.

Visit us at : WWW.PARADISEIRRIGATION.COM

Irrigation/Residential Irrigation

5/8" & 3/4" Meter	\$15.09	(I1/I2)(R1/2)
1" Meter	\$18.52	(I3)(R3)
1-1/2" Meter	\$27.10	(I4)(R4)
2" Meter	\$37.39	(I5)(R5)
3" Meter	\$61.40	(I6)(R6)
4" Meter	\$95.68	(I7)(R7)

Quantity Charge

Irrigation:	\$0.28 per Ccf
Residential Irrigation:	\$17.42 first 26 Ccf
	\$0.28 Ccf over 26 Ccf

Note: Irrigation and Residential Irrigation accounts are defined as those using water on two or more acres to produce a crop for commercial use. As of 1/1/90 no new Residential Irrigation accounts have been allowed.

Outdoor Recreation Rate

Service Connection Size	Monthly Service Charge
5/8 & 3/4"	\$27.26
1"	\$45.52
1-1/2"	\$90.77
2"	\$145.29
3"	\$272.57
4"	\$454.37

Quantity Charge

0-750 Ccf	\$0.28 Ccf
751-1500 Ccf	\$0.48 Ccf
Over 1500 Ccf	\$0.67 Ccf

The outdoor recreation rate is for customers that their primary use of water is to support outdoor recreation activities. An application is required.

Fire Service Connection Charges

Detector Meters—Billed Quarterly

Service Connection Size	Quarterly Service Charge
Residential	\$ 6.05 (FS1)
2"	\$12.11 (FS2)
4"	\$24.23 (FS4)
6"	\$36.34 (FS6)
8"	\$48.46 (FS8)

Quantity Charge

\$1.06 per Ccf

Any structure that is served with a separate connection to the District's water system that is designed to provide water to fire suppression systems such as fire sprinklers. Reflecting potential demand on the District's water system, the quarterly service charge is based on the size of the service connection. All water metered by the "detector" meter will



Rate Schedule

Effective: 06/01/2011
MONTHLY RATES

Meter sizes and Billing codes are now listed on each PID water bill.

Please take the time to compare your next bill with the information contained in this brochure.

- Important Terms & Information
- Residential Rates
- Sealed Meter Rates
- Multiple Family (Units)
- Residential/Care Facilities
- Business & Commercial
- Irrigation/Residential Irrigation
- Fire Service Connection Charges

6332 Clark Rd, Paradise CA 95969
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Paradiseirrigation.com

Residential Monthly Service & Quantity Charges

A Rate (RA): \$20.60

(Based on total annual usage: Less than or equal to 85 Ccf from 4/1 of previous year thru 3/31 of current year).

All meter sizes

Quantity Charge:

\$0.67 per Ccf

All usage

Who Qualifies for this Rate? Residential Customers who have owned service address for longer than 1 year and who use less than 85 Ccf during prior year. Be sure to check your bill for your current rate.

B Rate (RB): \$27.26

(Based on total annual usage: More than 85 Ccf from 4/1 of previous year thru 3/31 of current year).

All meter sizes

Quantity Charge:

First 35 Ccf	\$0.67 Ccf
36-75	\$0.87 Ccf
76 & up	\$1.06 Ccf

Sealed Meters Monthly Service Charge

Sealed Rate (SLD): Monthly Service Charge:

1/2 of A –Rate (current sealed rate: \$10.30)

Plus Fire Hydrant Fee of \$0.50

All meter sizes: Residential/ Business/ Irrigation

Service Fees for Seal/Unseal : \$20.00 per service call

If you feel there is a discrepancy in your Service Charge, you must fill out an appeal form within thirty (30) days of your billing date. See “Important Terms and Information” section of this rate brochure for more information.

Multiple Units Monthly Service & Quantity Charges

Multi-Family (Unit) C Rate (MFC): \$17.88 per edu*

Based on total annual usage: Less than or equal to 85 Ccf per EDU from 4/1 of previous year thru 3/31 of current year.

All meter sizes **Quantity Charge:** \$0.67 per Ccf
All usage

Multi-Family (Unit) D Rate (MFD): \$20.90 per edu*

Based on total annual usage: More than 85 Ccf per EDU from 4/1 of previous year thru 3/31 of current year.

All meter sizes **Quantity Charge:** \$0.67 per Ccf
All usage

Multiple Unit Charges: Any mobile home pad, apartment, separate structure of building with habitable space or facilities that could be used for living, sleeping, eating, or cooking, which could be rented and/or occupied by an individual or family. This does not include a home business, which is contained within a single structure (including an attached garage) and operated by occupant. Due to continuing consumption increases, each and every multiple unit (space with mobile, residential/business or residence regardless of size) occupied or unoccupied, will be charge the appropriate service fee times the number of multiple units or EDU. All water used will be billed at the lower tier.

** equivalent dwelling unit*

Residential Care Facilities Monthly Service & Quantity Charges

Residential/Care Facilities (RCF): \$27.26 per calculated EDU

Any facility which provides short term or long term residential housing and care will be charged Multiple Unit Charges calculated on an EDU factor based on their prior year consumption divided by the average for single family residential for the same period. The Calculated EDU will be multiplied by the “B-Rate” monthly service charge to determine the minimum service charge. All water used will be billed at the lowest tier.

All meter sizes **Quantity Charge:** \$0.67 per Ccf
All usage

Business/Commercial Monthly Service & Quantity Charges

5/8” & 3/4” Meter

Monthly Service Fee: **\$20.60 (BA) (LAA)**

Must use less than or equal to 85 Ccf from 4/1 of previous year thru 3/31 of current year).

Quantity Charge:

\$0.67 per Ccf

All Usage

5/8” & 3/4” Meter

Monthly Service Fee: **\$27.26 (B1) (LA1)**

Quantity Charge:

First 35 Ccf	\$0.67 Ccf
36-75	\$0.87 Ccf
76 & up	\$1.06 Ccf

1” Meter

Monthly Service Fee: **\$45.52 (B2) (LA2)**

Quantity Charge:

First 59 Ccf	\$0.67 Ccf
60-126	\$0.87 Ccf
127& up	\$1.06 Ccf

1-1/2” Meter

Monthly Service Fee: **\$90.77 (B3) (LA3)**

Quantity Charge:

First 117 Ccf	\$0.67 Ccf
118-249	\$0.87 Ccf
250 & up	\$1.06 Ccf

2” Meter

Monthly Service Fee: **\$145.29 (B4) (LA4)**

Quantity Charge:

First 187 Ccf	\$0.67 Ccf
188-399	\$0.87 Ccf
400 & up	\$1.06 Ccf

3” Meter

Monthly Service Fee: **\$272.57 (B5) (LA5)**

Quantity Charge:

First 350 Ccf	\$0.67 Ccf
351-750	\$0.87 Ccf
751 & up	\$1.06 Ccf

4” Meter

Monthly Service Fee: **\$454.37 (B6) (LA6)**

Quantity Charge:

First 584 Ccf	\$0.67 Ccf
585-1250	\$0.87 Ccf
1251 & up	\$1.06 Ccf

Business Accounts charged by meter size not number of multi-units